EDUCATION AND RESEARCH

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V. K. Zimmerman, *Editor*
JaNoel S. Lowe, *Assistant Editor*

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The Impact of IASC Accounting Standards on Comparability and Consistency of International Accounting Reporting Practices

MARTIN E. TAYLOR, THOMAS G. EVANS, and ARTHUR C. JOY*

BACKGROUND

Each nation's unique accounting rules and regulations mirror its culture and its economic, political, and legal systems. These national variations have led to a worldwide diversity in accounting standards. Such international diversity in national accounting standards has the potential to diminish the international flow of investment capital and to impede economic development and the efficient international allocation of resources.[1] The lack of international accounting standards can greatly diminish the utility of financial statements for users in countries other than the one on whose standards the financial statements are based.[2]

The concern that national diversity is not economically advantageous has led to a number of attempts to harmonize accounting

* Martin E. Taylor is Professor of Accounting, University of South Carolina.

Thomas G. Evans is Chairperson and Professor of Accounting and Management Information Systems, Bowling Green State University.

Arthur C. Joy is Assistant Professor of Accounting, University of South Carolina.

An earlier version of this paper was presented at the annual meeting of the American Accounting Association, Cincinnati, Ohio, August 16–19, 1987.

[1] Thomas G. Evans and Martin E. Taylor, " 'Bottom Line Compliance' with the IASC: A Comparative Analysis," *International Journal of Accounting* (Fall 1982), 115–28; and Frederick D. S. Choi and Vinod B. Bavishi, "Financial Accounting Standards: A Multinational Synthesis and Policy Framework," *International Journal of Accounting* (Fall 1982), 159–83.

[2] George M. Scott and Pontus Troberg, *Eighty-eight International Accounting Problems in Rank Order of Importance — a DELPHI Evaluation* (Sarasota, Fla.: American Accounting Association, 1980).

standards internationally. A major effort in this regard was the establishment by the International Federation of Accountants of the International Accounting Standards Committee (IASC) in 1973. IASC's objective is to issue international accounting standards to be followed in preparing audited financial statements by firms in member countries. Some ninety-three accounting bodies from sixty-eight countries compose the IASC.[3] Each member pledges to use its "best endeavor" to see that IASC standards are adopted and followed in its country.[4]

To be useful, accounting reports must be capable of being compared with similar reports. External[5] users of accounting information use two principal types of comparisons: those of the accounting reports of different organizations, and those of accounting reports of one organization for different time periods. The extent to which these comparisons can be made will be referred to as comparability (among different organizations) and consistency (within an organization).

Since its formation, IASC has issued more than twenty international accounting standards. The purpose of this research is to evaluate the extent to which IASC standards have successfully improved the comparability and consistency of international accounting reporting practices.

RESEARCH QUESTIONS

If IASC standards are to be effective in achieving IASC's intended purpose, the status of comparability and consistency of accounting reports must improve over the status prior to the issuance of the standards. The null hypotheses tested and reported here indicate that no differences exist between the present comparability and consistency of accounting reporting practices and the situation that existed prior to the issue of IASC standards.

The countries represented in IASC include developed and developing countries from all areas of the world. These countries had differing accounting traditions prior to the formation of the IASC. Those countries that had well-established national standards would be expected to be less affected by IASC standards than would the developing countries, which either had no such national

[3] John N. Slipkowski, "IASC Chairman Kirkpatrick on International Standards," *Management Accounting* (October 1986), 27–31.
[4] International Accounting Standards Committee, *Preface to the Statements of International Accounting Standards* (London: IASC, 1974).
[5] Internal users make other comparisons, such as with budgets, that are beyond the scope of this paper.

standards or had standards that differed significantly from those of the developed countries. The null hypothesis tested is that the improvement in the comparability and consistency of accounting reporting practices has not differed among countries of varied cultural and accounting traditions.

RESEARCH METHODOLOGY

Because comparability and consistency are highly subjective qualities, their evaluation requires the use of expert judgment. The experts represented in this study were members of public accounting firms located in forty countries that are represented in IASC. Two "Big 8" firms were selected, and questionnaires were sent to their offices (or correspondent firm offices) in IASC countries. These questionnaires were completed by accounting executives who have been in public accounting long enough to be able to compare personally the state of accounting reporting before and subsequent to the issuance of IASC standards.

A total of seventy-four questionnaires was mailed,[6] of which forty (54 percent) were completed and returned. These represented thirty-three of the forty countries (82.5 percent) to which questionnaires were sent. To ensure that the results were not biased by the countries from which multiple responses were received, the analysis was limited to one response per country. One response from those countries from which multiple responses were received was randomly selected for inclusion in the analysis.

The questionnaires asked the respondents to evaluate the effects of five IASC standards on the comparability and consistency of national and international accounting reporting practices. The following are the five standards selected.

IASC standard	Title	Effective date
No. 1	Disclosure of Accounting Policies	Jan. 1, 1975
No. 2	Valuation and Presentation of Inventories	Jan. 1, 1976
No. 3	Consolidated Financial Statements	Jan. 1, 1977
No. 4	Depreciation Accounting	Jan. 1, 1977
No. 7	Statement of Changes in Financial Position	Jan. 1, 1979

[6] Not all of the forty countries were served by both of the CPA firms.

These standards have been in effect long enough for their impact, if any, to have been noted.

The respondents were asked to indicate their agreement (using five-point Likert scales) with the following four statements concerning each of these standards.

Your *nation's* present financial reporting practices . . . :

1. Were highly comparable *before* this IAS became effective.
2. Are highly comparable at the *present* time.
3. Were highly consistent *before* this IAS became effective.
4. Are highly consistent at the *present* time.

These statements were repeated (for each of the five IASC Standards) with respect to *international* financial reporting practices. Thus, each participant responded to forty statements.

Comparability was defined in the questionnaire as being concerned with the comparison of similar types of information among various enterprises. Consistency was defined as comparing similar information of a particular enterprise for different periods.

Paired (matched) comparison T-tests were used to determine whether, for each set of questions, the responses to questions 2 and 4 (present comparability and consistency) differed significantly from the responses to questions 1 and 3 (comparability and consistency before IAS became effective), respectively. Analysis of variance was used to test the hypothesis that responses would differ across differing cultural and accounting traditions.

FINDINGS

Twenty comparisons were made between past and present accounting reporting practices. Those included comparability and consistency for national and international reporting for each of five international standards. In *every case*, the respondents judged both comparability and consistency to be greater presently than before the IASC standard became effective. These differences were statistically significant at a probability of better than 1 percent (except for two differences that were significant at a 2 percent level). Therefore, as expected, the null hypotheses of no differences in comparability and consistency are rejected.

Exhibit 1 reports the mean scores for each of the standards. (A score of 1 indicates strong *disagreement* with the statement that financial reporting practices were highly comparable/consistent; a score of 5 indicates strong *agreement* with the statement.)

To test the hypothesis that the impact of IASC standards differs depending on the culture and accounting traditions of the various

Exhibit 1. The Impact of IASC Standards on the Comparability and Consistency of National and International Financial Reporting Practices

		National		International	
		Previous	Present	Previous	Present
IAS No. 1	Comparability	2.6	3.6	3.3	4.1
	Consistency	3.0	3.8	3.6	4.2
IAS No. 2	Comparability	3.4	3.9	3.5	4.1
	Consistency	3.7	4.2	3.7	4.2
IAS No. 3	Comparability	2.4	3.2	3.1	3.8
	Consistency	3.0	3.5	3.4	4.0
IAS No. 4	Comparability	3.4	3.8	3.6	4.0
	Consistency	3.6	3.9*	3.8	4.1*
IAS No. 7	Comparability	2.6	3.4	3.1	4.0
	Consistency	3.2	3.8	3.4	4.1

* Differences significant at a probability of better than 2%. All other differences significant at better than 1%.

A score of 1 indicates strong *disagreement* with the statement that financial reporting practices were highly comparable (consistent); a score of 5 indicates strong *agreement* with the statement.

countries, the thirty-three countries from which responses were received were classified into three groups: Anglo-American, European, and Other (Africa, Asia, Latin America, and Middle East). An analysis of variance revealed that comparability and consistency scores for national reporting differed significantly among groups for IASC Standards No. 1, 3, and 7. IASC Standard No. 1 also showed significant differences for international reporting. Differences for IASC Standards No. 2 and 4 were not statistically significant. The results are given in Exhibit 2.

As Exhibit 3 shows, however, the *impact* of the IASC standards was approximately the same for each group (i.e., although the perceived levels of comparability and consistency may have differed among the groups, the *amount of improvement* in comparability and consistency did *not* differ among the groups to a statistically significant degree). Thus, the null hypothesis of no differences between countries of differing accounting and cultural traditions cannot be rejected.

SUMMARY

The comparability and consistency of both national and international accounting reporting practices for five IASC standards that have been in effect for several years were found to have improved significantly since their adoption and implementation. Although the degrees of comparability and consistency varied among nations

Exhibit 2. Comparability and Consistency of National and International Financial Accounting Reporting Practices by Region

	Anglo-American		European		Other		F-Probability	
	Previous	Present	Previous	Present	Previous	Present	Previous	Present
IASC No. 1								
National								
Comparability	3.3	4.6	2.0	2.7	2.6	3.6	.0532	.0041
Consistency	3.8	4.6	2.7	3.4	2.7	3.6	.0428	.0402
International								
Comparability	3.7	4.6	2.6	3.5	3.6	4.3	.0578	.0170
Consistency	4.0	4.6	3.3	3.7	3.7	4.3	.2840	.0264
IASC No. 2								
National								
Comparability	3.8	4.4	3.5	3.7	2.8	3.6	.3126	.2658
Consistency	4.0	4.7	3.6	3.8	3.4	4.0	.6793	.1638
International								
Comparability	3.8	4.3	3.3	3.6	3.5	4.3	.7592	.1496
Consistency	3.9	4.3	3.5	3.8	3.8	4.3	.7533	.3431
IASC No. 3								
National								
Comparability	3.8	4.2	1.2	2.0	2.6	3.4	.0002	.0021
Consistency	3.9	4.4	2.3	2.7	3.1	3.6	.0356	.0161
International								
Comparability	3.0	3.8	2.7	3.2	3.5	4.3	.4133	.0802
Consistency	3.3	4.0	3.1	3.5	3.6	4.4	.5329	.0996

Exhibit 2. (cont.)

	Anglo-American		European		Other		F-Probability	
	Previous	Present	Previous	Present	Previous	Present	Previous	Present
IASC No. 4								
National								
Comparability	4.1	4.2	3.0	3.4	3.3	3.8	.1840	.3082
Consistency	4.2	4.6	3.0	3.4	3.6	3.8	.1333	.1043
International								
Comparability	3.8	4.3	3.4	3.6	3.7	4.3	.8453	.1710
Consistency	3.9	4.3	3.5	3.7	4.0	4.3	.6188	.2164
IASC No. 7								
National								
Comparability	3.9	4.4	1.7	2.5	2.5	3.4	.0072	.0039
Consistency	3.9	4.6	2.7	3.1	3.2	3.9	.1993	.0182
International								
Comparability	3.3	4.0	2.8	3.6	3.2	4.3	.7404	.1490
Consistency	3.6	4.2	3.1	3.6	3.5	4.3	.6393	.1542

Exhibit 3. Comparability and Consistency of National and International Financial Accounting Reporting Practices by Region (Mean Differences between Scores Prior to and with IASC Standards)

	Anglo-American	European	Other	F-Probability
IASC No. 1				
National				
Comparability	1.3	0.7	1.0	.4594
Consistency	0.8	0.7	0.9	.7267
International				
Comparability	0.9	0.9	0.7	.8394
Consistency	0.6	0.4	0.7	.7038
IASC No. 2				
National				
Comparability	0.6	0.2	0.8	.2831
Consistency	0.7	0.2	0.6	.3573
International				
Comparability	0.6	0.3	0.8	.3832
Consistency	0.4	0.3	0.5	.8145
IASC No. 3				
National				
Comparability	0.6	0.6	0.8	.7657
Consistency	0.6	0.3	0.6	.5825
International				
Comparability	0.8	0.5	0.8	.6501
Consistency	0.8	0.3	0.7	.4152
IASC No. 4				
National				
Comparability	0.1	0.4	0.5	.3273
Consistency	0.3	0.4	0.2	.7914
International				
Comparability	0.5	0.2	0.6	.5079
Consistency	0.4	0.2	0.3	.8395
IASC No. 7				
National				
Comparability	0.6	0.8	0.8	.9292
Consistency	0.8	0.4	0.7	.7413
International				
Comparability	0.8	0.8	1.1	.7736
Consistency	0.6	0.6	0.7	.9198

with differing cultural and accounting traditions, both before the implementation of the IASC standards and at the present, the extent of the improvement did *not* differ significantly across cultural groups.

Based on these findings, we can conclude that the International

Accounting Standards Committee, through its international accounting standards, appears to be succeeding in improving the comparability and consistency of international accounting reports and thereby reducing the diversity of international accounting reporting practices.

Collective Bargaining and Accounting Disclosure: An Inquiry into the Changes in Accounting Policy

HIDETOSHI YAMAJI*

In a modern economic society, accounting information is useful in attaining many socially desired goals. For example, security investments by individual investors cannot be made knowledgeably without accounting information. Despite its usefulness, however, two unresolved problems concerning accounting information, which will be discussed in this paper, remain. It seems that these problems cause the reduction of the usefulness of accounting information and then restrict the uses of that information. As a result of these two problems, suspicion and dissatisfaction with accounting information continue.

The first unresolved problem is why management sometimes manipulates accounting information (e.g., changes in accounting policies, changes in expressing the research and development cost). M. J. Gordon first attempted to explain the information manipulation phenomenon with the income smoothing hypothesis.[1] In subsequent studies, R. M. Copeland, B. E. Cushing, M. L. Gosman, B. E. Deakin, C. S. Warren, and W. G. Bremser continued to study

* Hidetoshi Yamaji is Associate Professor of Finance and Accounting, Research Institute for Economics and Business Administration, Kobe University, Japan. He was a Visiting Scholar at the University of Illinois during 1986–1987.

[1] M. J. Gordon, "Postulate, Principles and Research in Accounting," *Accounting Review* (April 1964); and M. J. Gordon, B. Horwitz, and P. Meyer, "Accounting Measurements and Normal Growth of the Firm," in *Research in Accounting Measurements,* ed. Jaedike et al. (Sarasota, Fla.: American Accounting Association, 1966).

this important accounting area.[2] Recently, G. L. Salamon and E. D. Smith used a new approach based on the agency theory.[3] These researchers were, however, unable to reach significant conclusions.

The second unresolved problem is whether the accounting information has an impact on wage increases demanded by the employees (or labor unions) involved in collective bargaining, and, conversely, whether management occasionally manipulates accounting information during the collective bargaining negotiation. Although much empirical research relating security investments to accounting information exists, very little research has been done to ascertain the impact of corporate financial reporting on the wage demands of employees[4] and the manipulation by management of accounting information in this context, despite the often repeated assertion that accounting information has an impact on and is influenced by the wage demands of employees.

Considering the results of the research efforts to date in these areas of accounting, new contributions seem possible if an assumption can be advanced and empirically verified to connect the two stated problems.

The theory of collective bargaining proposed by J. R. Hicks is described, and the theoretical possibility of manipulation by management of accounting information by adopting Hicks' model is identified. Next, a preliminary analysis of the relationship between the rise of wages and the increase of a firm's earnings will be made by using aggregate macrodata. This relationship should indicate the possibility that management is inclined to manipulate accounting information to suppress increases in labor costs. Next, the empirical study will continue by using accounting data from Japanese firms to demonstrate that some firms deliberately underestimate their accounting forecasts.

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[2] R. M. Copeland, "Income Smoothing," *Empirical Research in Accounting: Selected Studies* supplement to *Journal of Accounting Research* (1968); B. E. Cushing, "An Empirical Study of Changes in Accounting Policy," *Journal of Accounting Research* (Autumn 1969); M. L. Gosman, "Characteristics of Firms Making Accounting Changes," *Accounting Review* (January 1973); B. E. Cushing and E. B. Deakin, "Firms Making Accounting Changes: A Comment:," *Accounting Review* (January 1974); C. S. Warren, "Characteristic Firms Reporting Consistency Exceptions — A Cross Section Analysis," *Accounting Review* (January 1977); and W. G. Bremser, "The Earnings Characteristics of Firms Reporting Discretionary Accounting Changes," *Accounting Review* (April 1975).

[3] G. L. Salamon and E. D. Smith, "Corporate Control and Managerial Misrepresentation of Firm Performance," *Bell Journal of Economics* (Spring 1979).

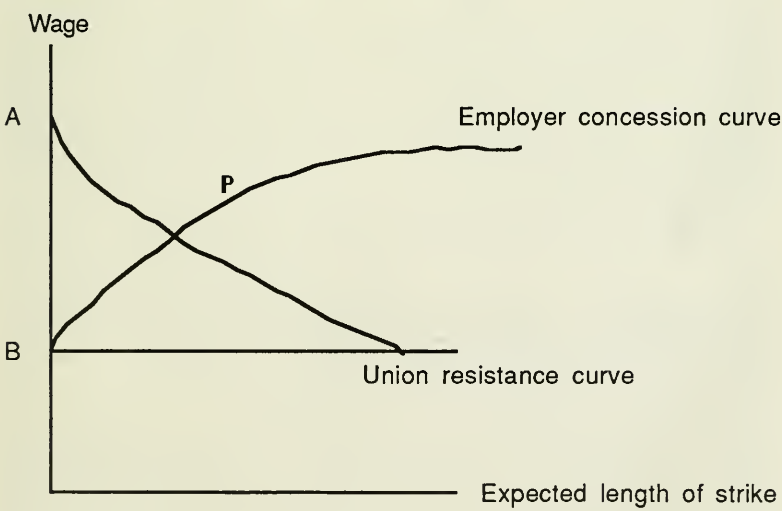
[4] B. Horwitz and B. Schbahang, "Published Corporate Accounting Data and General Wage Increse of the Firm," *Accounting Review* (April 1971).

SIGNIFICANCE OF ACCOUNTING INFORMATION IN COLLECTIVE BARGAINING

The manner in which management and labor unions use accounting information in collective bargainings is analyzed by using agency theory. J. R. Hicks' wage theory[5] can be used to explain the phenomena of collective bargaining from an agency approach. Hicks' theory establishes a situation where the labor contract is prepared by two groups that are asymmetrical in terms of information processing, each making its own benefit maximizations. Hicks explains the collective bargaining process by two curves: the employer concession curve and the union resistance curve. These correspond to the demand curve and the supply curve, respectively, in ordinary market theory. Equilibrium is achieved, then, at the point where the two curves intersect. Exhibit 1 illustrates this process. The two curves represent the two major groups that are reciprocally influenced in typical collective bargaining.

One of the basic characteristics of this model is that strikes are costly to both the employer and the workers. The costs to the employer include lost profits, unavoidable fixed costs, customer dissatisfaction, and other miscellaneous expenses. These costs are

Exhibit 1. J. R. Hicks' Model of Wage Bargaining



[5] J. R. Hicks, *The Theory of Wages*, 2nd ed (London: Macmillan, 1964); and C. T. Lau and M. Nelson, *Accounting Implications of Collective Bargaining* (Hamilton, Ontario: Society of Management Accounting of Canada, 1981), chapt. II.

functions of the duration of the strike. The employer is indifferent between the labor cost increase (a given wage increase) and a certain strike length if the discounted present values of the two costs are equal. The length of the strike, which would equate strike costs to the costs related to a given wage in excess of B (the minimum wage below which the employer could not keep the labor force), is traced along a path called the employer concession curve.

If a labor union expects that a strike is unnecessary to secure an increase in wages, it no doubt would seek the largest wage increase possible consistent with the employer's ability to pay (indicated as point A). The employer's ability to pay wages is an ability that is estimated by the union through the use of accounting information disclosed by the employer. Labor may possibly realize lower wages if it chooses to settle for a wage less than that of A. On the other hand, labor incurs the cost of lost wage income when it strikes, and the longer the strike, the greater the loss of wage income. This loss reduces the net present value of the benefits derived from the successfully obtained wage A. Labor would most likely find it more beneficial to accept a wage less than A rather than participate in a strike which is longer than a specified duration. In other words, for each strike of a given duration, there is a wage at which the union is indifferent between the strike and the wage. The path that traces the willingness of the union to strike for a period of time rather than accept a reduction in its wage demand is measured by the union resistance curve. The point P at which the union resistance curve intersects the employer concession curve represents the wage W, which both groups participating in collective bargaining will accept.

It should be noted that the employer concession curve that the employer might be willing to accept must be estimated by the labor union itself before the collective bargaining process begins by using corporate information. Management can then manipulate the accounting information to control the employer concession curve estimate made by the labor union.[3]

One of the determining factors regulating the slope and the shape of the employer concession curve is management's tolerance to strikes. That is, management easily accepts wage increases during a prosperous business cycle but resists them during a depressed business time. Management's forecast of the business cycle is a factor crucial to the labor union when the latter estimates the shape of the employer concession curve. Management can then forecast future business conditions partly by using accounting information disclosed in the past.[6] Similarly, the labor union forecasts these conditions based on the same accounting information, macroeconomic data, and other miscellaneous sources.

The tentative proposition may be stated that it is possible that management manipulates even the institutional accounting information regulated by the security regulations, the commercial law, or the stock exchange self-regulations when it wishes to limit labor costs. In other words, management can decrease labor's portion of the distribution of business revenues by manipulating the accounting information because, under the agency theory approach, only management can exclusively make and use "the distributional information" (i.e., accounting information). This proposition clearly connects the two formerly unresolved problems.

Some may question whether the information manipulation could be employed twice by management because labor should become aware of management's underestimation of the accounting data. It seems to be better, though, for management to underestimate consistently accounting results, once such an accounting practice has been adopted.

EMPIRICAL STUDY OF A JAPANESE CASE

A preliminary analysis to test the relationship between the level of wage increases and the accounting profit numbers of the macrodata of Japan is made. The average operating income per employee, the value added, the sales, the real wage increase, and labor's wage increase demands are listed in Exhibit 2.[7] Exhibit 3 depicts the relationship between the wage increase and the average operating income per employee from 1966 to 1973. Exhibit 4 indicates the same relationship from 1966 to 1983. The line drawn in Exhibit 3 is a regression line.

Based on the macrodata analysis, we can safely assume that from 1966 to 1973, a clear relationship between the real wage increase and the operating income per employee existed but that such a relationship had disappeared by 1974 when the so-called "Oil Shock" hit the Japanese economy. Thus, from 1966 to 1973, accounting information (represented by the operating income per employee) was a useful indicator of the firms' ability to pay wages.

[6] For example, the disclosure according to the Securities Exchange Act and the Commercial Law.

[7] These data were cited in *Year of Labour Statistics* (Japan: Ministry of Labour, Statistics and Information Department, 1984).

Exhibit 2. Some Statistics Concerning the Labor Market in Japan

Year	Operating income per employee	Value added (thousands of yen)	Sales (thousands of yen)	Wage increase	Labor's demand for wage increases
1966	416	2,255	10,828	3,403	6,623
1967	524	2,584	12,664	4,371	7,025
1968	564	2,882	14,313	5,296	8,305
1969	696	3,398	17,044	6,865	9,840
1970	721	3,880	19,693	9,166	11,795
1971	577	4,092	20,999	9,727	13,991
1972	735	4,612	24,067	10,138	15,432
1973	1,071	5,753	32,357	15,159	18,897
1974	795	6,734	40,324	28,981	35,177
1975	410	6,757	41,131	15,279	37,447
1976	942	7,954	46,994	11,596	23,793
1977	1,049	8,533	49,799	12,536	22,181
1978	1,243	8,995	51,989	9,218	19,621
1979	1,551	10,226	65,056	9,615	13,681
1980	2,165	12,116	76,435	11,679	15,157
1981	1,803	12,371	81,937	14,037	18,735
1982	1,781	12,640	82,868	13,613	18,080
1983	2,000	12,973	82,367	8,964	15,002

However, from 1974 on, the ability of firms to pay wages based on accounting information was doubtful. These facts indicate that, on the one hand, accounting information in recent years has gradually become less useful for the purpose of collective bargaining, but, on the other hand, its usefulness in facilitating the collective bargaining process cannot be completely denied.[8]

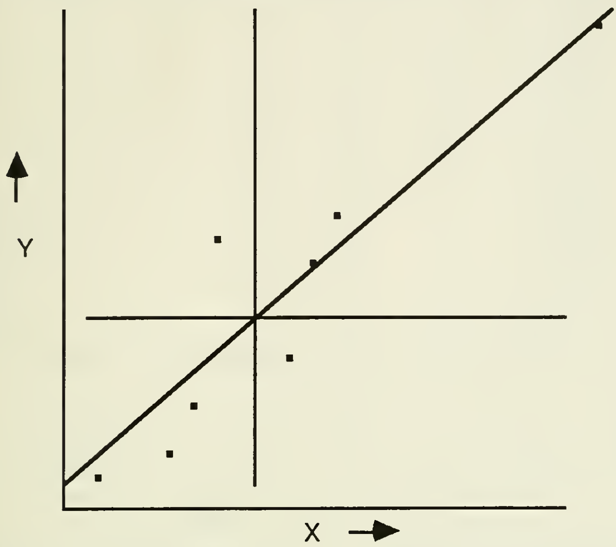
Having completed the preliminary analysis, we now seek to verify our proposition. From the aforementioned empirical study, the possibility that management and labor unions employ the accounting information in collective bargaining remains. Accordingly, the possibility that the former manipulates it to deceive the latter into underestimating business prosperity for the objective of suppressing rising labor costs also remains.

Methods of Verification

The forecast information used by Japanese management has been selected as the institutional accounting information on which collective bargaining should be based. First, however, an explanation should be given concerning the forecast information as

[8] Another conclusion cannot be drawn even if the leading lag data are used.

Exhibit 3. Correlation between Wage Increase and Accounting Income Numbers (1966–1973)

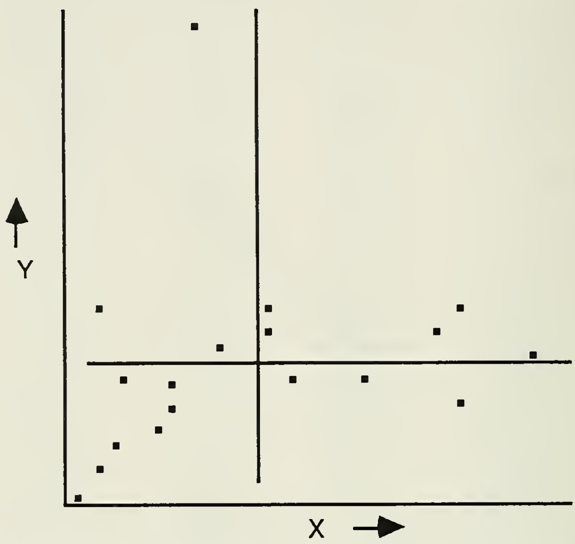


X = Operating income per employee.
Y = Wage increase (x, y: yen)
Correlation coefficient: 0.916 (Significant level 99%).

issued by Japanese management. This is because such forecast information is not systematically available in the United States. In Japan, the stock exchange self-regulations require that all listed corporations disclose their forecasts of future operating income amounts, sales amounts, and the net income that management hopes to realize in the next accounting period. Such forecasts are disclosed mainly in the *Nippon Keizai Shinbun* (the major economic newspaper in Japan, comparable to *The Wall Street Journal* in the United States). Labor unions in Japan generally use this information in their collective bargaining negotiations.

Fully 50 percent of all Japanese enterprises adopt March 31 as the closing date of their accounting records. They usually also disclose, as required by the Japanese stock exchanges, some important accounting information, including the previously mentioned forecast information, two or three months after closing their books. The remaining firms (the other 50 percent) have adopted other fiscal year dates to close their records. They also disclose the same sort of information two or three months after

Exhibit 4. Correlation between Wage Increase and Accounting Income Numbers (1966–1983)



X = Operating income per employee.
Y = Wage increase (x, y: yen).
Correlation coefficient: 0.160 (Significant level 95%).

the end of their respective fiscal years. Exhibit 5 indicates the distribution of the Japanese firms' book closing dates.[9]

The system of collective bargaining in the Japanese labor market should be described and explained. Unlike the collective bargaining system in the United States, Japanese management and labor unions conduct negotiations at least once a year. Usually the collective bargaining negotiations for ordinary firms and for ordinary industries are held in April. This series of annual negotiations established after World War II has come to be called "The Spring Struggle."

It is acknowledged that when ordinary firms in Japan adopt March 31 as their settling day, they disclose their new significant accounting information two or three months after this date yet they begin collective bargaining with their labor unions in April. The labor unions for ordinary firms cannot, therefore, use any newly available important accounting information, including the

[9] These data were found in *Fact Book 1985* (Japan: The Tokyo Stock Exchange, 1986).

Exhibit 5. Distribution of Japanese Firms' Settling Day (As of December 1984)

Month of settling accounts	Number of firms	(%)
January	28	(1.9)
February	57	(3.9)
March	830	(57.5)
April	63	(4.4)
May	56	(3.9)
June	20	(1.4)
July	12	(0.8)
August	17	(1.2)
September	103	(7.1)
October	37	(2.6)
November	101	(7.0)
December	120	(8.3)
Total	1,444	(100.0)

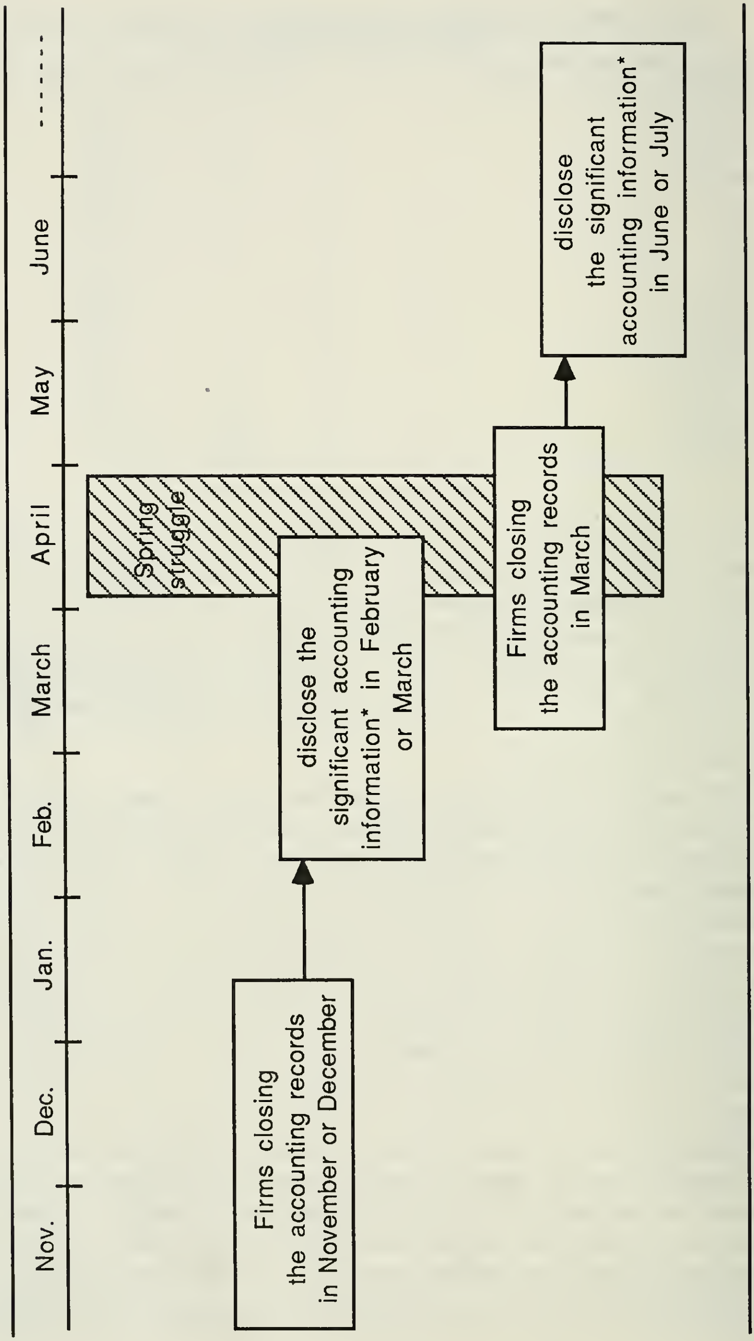
forecast information, in their collective bargaining negotiations. The accounting information of the firms whose settling day is *not* March 31 usually is available just in time for the collective bargaining efforts in April. The accounting information disclosed by those firms which adopt a day in November or December as their settling day can then be used in the collective bargaining during the following spring. The time schedule of disclosure in Japan is illustrated in Exhibit 6.

The empirically testable proposition derived from the aforementioned descriptive proposition is now given. If Japanese management habitually considers its attempts to impose lower labor costs when it discloses accounting information, the ratios of the forecasted future accounting income numbers to the realized numbers of the same items presented by those firms that disclose important accounting information before collective bargaining begins in April will be significantly smaller than the ratios of the two accounting income numbers presented by those firms that disclose them after collective bargaining begins in April.

Data

Accounting data for the two sample groups of Japanese firms are necessary. The first group consists of those firms that close their books in November or December. The second group consists of those firms that close their books in March. Of course, the firms' industrial distribution, unionization, and size distribution must also be considered. A list of the sample firms is presented in Exhibit 7.

Exhibit 6. Time Schedule of Disclosure in Japan



* Forecast information is included in the significant accounting information.

Exhibit 7. List of Sample Firms by the Month for Settling Accounts and by Industry

Industry	March	November/ December
Marine products	1	1
Construction	3	3
Food	4	4
Textile	3	3
Paper	1	1
Chemicals	7	7
Petroleum	2	2
Rubber	2	2
Glass and concrete	2	2
Metal	4	4
Machinery	6	6
Department store	1	1
Real estate	1	1
Shipping	1	1
	38	38

Exhibit 8. Difference in Forecasts by Two Firm Groups

	Firms closing books in March	Firms closing books in November or December	f-Value	t-Value
	1975/76	*1974/75*	8.20	0.26
Sales	1.0125(38)	1.0237(38)	(0.000)	(0.797)
Operating income	0.9220(28)*	0.6209(28)	2.31	3.32
			(0.034)	(0.002)
	1980/81	*1979/80*	8.50	0.33
Sales	1.0213(38)	1.0122(38)	(0.000)	(0.835)
Operating income	0.9310(29)†	0.6411(29)	2.45	3.30
			(0.044)	(0.002)

* Ten firms were deficient.
† Nine firms were deficient.

The ratios of the forecasted accounting income numbers to the realized numbers as disclosed by the two sample groups of firms were analyzed comparatively. These ratios represent the boldness of the forecast. According to our assumptions, the ratios (forecasted number/realized number) of firms closing their books in November or December are significantly smaller than those of firms closing their books in March. The empirical results are reported in Exhibit 8. The years from which the samples of forecasted numbers and the samples of realized numbers were taken were 1974/1975 and 1979/1980 (for those firms closing their books in November or December) and 1975/1976 and 1980/1981 (for those firms closing their books in March). The sample years from which our data were derived were selected at random and were not continuous.

The empirical results reveal that in comparing the average ratio of the forecasted number of sales to the realized number of sales, no noticeable difference exists between the two firm groups. This means that the degree of boldness involved in the forecasts for the sales amount between the two firm groups is apparently the same. In addition, the accuracy of the forecasts concerning the amount of sales is at a very high level for both groups. This can be deduced because the ratios are approximately equal to 1.

A significant difference exists in the degree of boldness in the operating income forecasts of the two firm groups. Those firms that close their books in March generally forecast their operating income amounts accurately, but those that close their books in November or December usually underestimate their operating income amounts. Generally, if the amount of sales can be estimated with a high certainty of accuracy, the amount of operating income may also be accurately estimated. In fact, those firms that close their books in March forecast their operating income results quite accurately. The other firm group usually reports underestimated operating income results. Considering that operating income is one of the most important accounting information items to judge the condition of firms, these statistical results can be accepted by our assumption if another, more valid assumption cannot be found to explain it. Therefore, this empirical study seems to support our hypothesis that Japanese management is generally inclined to manipulate accounting information to reduce labor costs. Conversely, accounting information may have some effect on collective bargaining. The result of this research does not mean, however, that only those firms closing their books in November or December consider the industrial relations problem and that all other firms ignore this problem. This difference is not due, however, to the qualitative difference in management policy between the two firm groups but is primarily due to the matter of degree in management policy.

CONCLUSION

In this paper, the relationship between management manipulation of accounting information and the industrial relations has been analyzed in the hope of resolving the problems of the reduction of the usefulness of accounting information due to management manipulation of that information and of whether accounting information has an impact on wage increases demanded by employees. We have concluded that the management of Japanese enterprises is inclined to manipulate its accounting information to reduce its labor costs. This may also be the case in the United States[10] whether or not the same assumption is empirically verifiable by using data from American firms. This discovery has two major implications on accounting research. First, changes in accounting policy or accounting information manipulation in general can be made by a management that considers labor costs when disclosing accounting information. Second, accounting measurements should be influenced in part by industrial relations concerns. Consequently, a correlation between the accounting information and wage levels (wage demands) accepted by both the management and the employees, at least at the aggregate level, does exist.

[10] D. Hawkins, "The Case of the Dubious Deferral," *Harvard Business Review* (May-June 1963).

International Accounting and Auditing in the U. S. CPA Examination, 1917–86

NORLIN G. RUESCHHOFF*

INTERNATIONAL ACCOUNTING AND AUDITING STANDARDS REFLECTED IN THE CPA EXAMINATION

International accounting and auditing theory and practice have been the subject of numerous studies in recent years. Between 1968 and 1978, the Accountants International Study Group published twenty comparative studies on accounting theory and practice issues in Canada, the United Kingdom, and the United States. Since 1974, the International Standards Committee has issued more than twenty-five international accounting standards. Since 1980, the International Federation of Accountants has issued guidelines on auditing, ethics, and education. The Financial Accounting Standards Board issued standards on foreign currency translation and foreign currency transactions in 1973, 1975, and 1981. The work of all these groups has been supported by the American Institute of Certified Public Accountants. With such attention to the principles and practices presented in these documents, should they be part of the professional body of knowledge for the aspiring accountant? What have been the Certified Public Accountant Examination requirements for international accounting and auditing?

A number of studies on the cost, tax, business law, and quantitative methods content of the CPA Examination have been made, but none of these dealt with international issues.[1] One study of

* Norlin G. Rueschhoff is Professor of Accountancy at the University of Notre Dame.

[1] John D. Blackburn, "Ten-Year Review of the CPA Law Examination Revisited," *American Business Law Journal* (Fall 1980), 391–98; David B. Croll, "Cost Accounting

the practice section for the 1937–46 period listed two foreign exchange problems representing 17.5 of a total of 2,060.5 value points, or .85 percent of the points, for the ten-year period.[2] Another study of all parts of the CPA Examination for the 1946–55 period listed foreign exchange among the topics three times from the total of 936 questions, or .32 percent of the problems.[3] A more recent study of the theory section, for the 1969–74 period, reported an increasing emphasis on official pronouncements and on managerial accounting; this study reported one discussion question on Financial Accounting Standard No. 1 that dealt with foreign currency translation disclosure.[4] An even more recent study on international accounting topics reported 16 minutes of 1,170 total examination time minutes, or 1.37 percent, allocated to international topics during the 1975–79 period, but the study did not give an analysis of the topics.[5]

This paper studies the changes in the international education requirements of professional accountants during the past seven decades. It presents a comprehensive analysis of the international accounting content of the U. S. Uniform Certified Public Accountant Examination since its beginning in 1917. It reflects the degree to which the knowledge of international accounting and auditing

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in the CPA Examination — Revisited," *Accounting Review* (April 1982), 420–29; J. O. Everett, "Tax Questions on the CPA Exam, a Closer Look," *Tax Magazine* (February 1980), 111–14; Howard F. Greene, "Cost Problems Encountered in CPA Examinations," *Accounting Review* (April 1946), 148–54; P. J. Harmenlink and G. F. Streuling, "Tax Topics on the CPA Exam, An Update," *Tax Magazine* (June 1978), 342–46; Gaylord Jentz, "Ten-Year Review of the CPA Law Examination," *Accounting Review* (April 1967), 362–65; Robert G. Katzenmeyer, "Cost Accounting Context of Seventeen A.I.A. 'Theory of Account' Examinations," *Accounting Review* (October 1955), 694–701; L. Lakin, "The New CPA Examination: More Challenging than Ever Before," *Accounting Forum* (May–December 1974), 49–59; Patrick B. McKenzie, "Quantitative Methods on the CPA Examination, An Update," *Collegiate News and Views* (Fall 1978), 8–13, and "Quantitative Methods on the CPA Examination," *Journal of Accountancy* (January 1976), 92–96; and Milton F. Usry, "Cost Accounting in the CPA Examination — Updated," *Accounting Review* (July 1976), 633–36, "Cost Accounting in the CPA Examination — Updated," *Accounting Review* (October 1971), 791–96, and "Cost Accounting on the CPA Examination," *Accounting Review* (October 1966, 754–62.

[2] Howard M. Daniels, "Functional Preparation for the CPA Examination in Accounting Practice," *Accounting Review* (April 1947), 166–69.

[3] William F. Crum, "A CPA Examination Topic Frequency Analysis," *Accounting Review* (January 1956), 122–26.

[4] Levis D. McCullers and Richard G. Schroeder, "An Analysis of the Theory Section of the Uniform CPA Examination," *Journal of Accountancy* (January 1976), 96–98.

[5] Michael A. Pearson, John K. Ryans, Jr., and Lorraine J. Hicks, "Representation of International Topics on the CPA Examination," *Wisconsin CPA Journal* (June 1981), 23–24.

has been required in the testing of initiates into the accounting profession. For this study, *international accounting* is defined as "accounting for firm-level activity that crosses national boundaries or is conducted in a location other than the firm's domicile country."[6]

INTERNATIONAL CONTENT ANALYSIS

Time Requirements on International Topics

Except for the years 1928 and 1929, international issues appeared in the CPA Examination every year from its inception in 1917 until 1940. After an absence during the years 1940–43, 1946–47, 1949, 1951–52, 1954, 1957, and 1959, international topics have again appeared every year since 1960.

Exhibit 1 presents a summary of the international content of the Uniform CPA Examination over the past seventy years. The exhibit indicates the estimated time requirements and the number of required and optional questions and problems used during each decade. Also presented are the total time requirements of the examination for each of the seven decades, with the percentage of time devoted to the required and optional problems.

The international content exceeded 3 percent of the examination during the early 1930s and dropped to a low in the post–World

Exhibit 1. Number of Questions and Problems and Amount of Time (in minutes) on International Issues in the Uniform CPA Examination

	1917–26	1927–36	1937–46	1947–56	1957–66	1967–76	1977–86
Number of problems and questions							
Required	5	8	4	3	15	24	66
Optional	9	4	1	3	—	—	—
Total number	14	12	5	6	15	24	66
Amount of time (in minutes)							
Required	187	375	141	4	209	177	206
Optional	278	315	7	86	—	—	—
Total time	445	690	148	90	209	177	206
Percent of CPA Exam time requirements							
Required	.96	1.84	.62	.02	.89	.75	.88
Optional	1.41	1.54	.03	.37	—	—	—
Total	2.27	3.38	.65	.39	.89	.75	.88

[6] Norlin G. Rueschhoff, *International Accounting and Financial Reporting* (New York: Praeger, 1976), 3.

War II era. The average time for international issues has been approximately 1 percent in the past three decades. The average percentage for the entire seventy-year period is 1.26.

The amount of time and the number of *optional* international problems and questions have decreased considerably. Long optional problems were quite customary from 1919 to 1936. Optional essay questions appeared in the early 1920s and again in the 1948–55 period. The last optional international accounting problem was in May 1955. Since then, optional problems have been dropped completely from the CPA exam.

Types of International Accounting Problems and Questions

A summary of the types of problems and questions is presented in Exhibit 2. The number of long problems and essay questions, usually relating to foreign currency translation, has been dwindling. The short questions integrated as segments of problems that continue to appear frequently relate to foreign tax considerations. The number of recent multiple-choice questions that concern international issues parallels the expanded use of objective questions since 1962.

Locus of International Topics

Exhibit 3 reports where the problems and questions have appeared in the examination. Many objective questions have been included in the theory section since it was deleted from the combined theory and practice section and added as a separate 3½-hour session in 1943.

The international theory issues have definitely increased since

Exhibit 2. Types of Problems and Questions with International Content

	1917–26	1927–36	1937–46	1947–56	1957–66	1967–76	1977–86
Number of problems	4	8	2	—	2	1	1
Number of essay questions	8	4	3	3	1	3	3
Segments of problems	2	—	—	3	1	2	1
Multiple-choice or true/false questions	—	—	—	—	11	18	61
Totals	14	12	5	6	15	24	66

Exhibit 3. Locus of Problems and Questions with International Content

	1917–26	1927–36	1937–46	1947–56	1957–66	1967–76	1977–86
Auditing	1	3	2	1	—	2	5
Law	3	1	1	—	2	2	11
Practice*	10	8	2	2	9	7	34
Theory	—	—	—	3	4	13	16
Totals	14	12	5	6	15	24	66

* In this exhibit, the combined theory and practice section is included as the practice section.

Exhibit 4. Trends of International Topics in Examination Problems and Questions

	1917–26	1927–36	1937–46	1947–56	1957–66	1967–76	1977–86
Foreign currency translation	6	9	2	3	5	15	44
Foreign exchange instruments	3	1	2	8	2	2	2
Foreign trade issues	2	1	1	—	1	1	13
Foreign taxes	3	—	—	3	7	4	6
Use of foreign auditor	—	1	—	—	—	2	1
	14	12	5	6	15	24	66

the introduction of the separate theory section. International problems always have been prevalent in the practice section and continue to be represented occasionally in the auditing section. Although problems appear regularly in the law section, they have been more frequent in this section during the past decade. These variations in locus can be more readily understood by studying the specific topics covered.

TOPICAL COVERAGE

Foreign Currency Translation

The trends of topical coverage are presented in Exhibit 4. The topic of greatest frequency is foreign currency translation. This includes both recording foreign currency transactions and the translation of foreign currency financial statements.

Foreign currency translation issues have been included in the long accounting practice problems throughout the history of the examination and are now presented regularly in the multiple-choice questions in the theory and practice sections. Since the issuance of Statement of Financial Accounting Standard No. 8 in 1975, forty-two objective questions, one problem, and one essay question have centered on foreign currency translation. The problem was a twenty-minute practice problem in November 1970, the essay question was a twenty-five minute theory question in May 1978, and most of the objective questions appearing in every examination since 1976 relate to the exchange rates to be used either in recording foreign currency transactions, reporting foreign currency account balances, or in translating foreign currency financial statements for consolidation with parent company statements.

Foreign Exchange Instruments

The topic of foreign exchange instruments has appeared sporadically. This topic includes such matters as the definition of a foreign bill of exchange, the nature of foreign exchange instruments, and the valuation problem connected with foreign cash items.

A required sixty-minute practice problem in November 1918 related to recording foreign exchange in the accounts of a dealer. Optional problems appeared in 1920 and 1923, requiring the definition of a foreign bill of exchange and the accounting for a foreign letter of credit. A decade later, two required problems related to foreign exchange instruments — a twenty-minute question in November 1931 and a fifteen-minute problem in November 1944. The last long problem of this type was a required thirty-minute foreign cash accounting problem in the May 1970 theory section.

Foreign Trade Issues

The foreign trade issues include topics such as the meaning of the freight term "CIF," the nonacceptance of delivery on a foreign contract, the nature of import certificates, and the coverage of foreign trade under the Fair Labor Standards Act and, more recently, under the Foreign Corrupt Practices Act. One required practice problem in 1937 concerned the determination and treatment of a gain or loss from borrowing abroad.

In most recent years, the Foreign Corrupt Practices Act has had an impact on the examination. The exact nature and significance is described in an analysis of the past decade. Since May 1980, eight objective questions and two essay questions concerning the Foreign Corrupt Practices Act have appeared, primarily in the business law section.

Foreign Taxes

Foreign tax considerations have always been a minor part of the examination, either as segments of large problems or, more recently, in multiple-choice questions. They concern the foreign tax credit, taxability of foreign dividends, tax deductibility of foreign currency loss or expense, and accrual of taxes on foreign earnings.

In the early 1920s, three long practice problems on income taxes included international issues: in November 1920, an investment in a 20 percent–owned foreign corporation; in May 1924, a loss on investment in Bolivian bonds; and, in November 1926, dividends from a Canadian corporation operating entirely in Canada and from a British holding company whose sole income came from dividends from a domestic corporation.

A dearth of foreign tax issues existed for twenty-five years from 1926 to 1950. Then, in May 1950, a long income tax problem included dividends on a stock investment in a foreign corporation. Similar problems appeared in May 1956, November 1961, November 1962, and November 1973. A May 1953 tax problem included a Mexican branch operation; a November 1972 problem included interest on loan from a brother, a resident of Peru; and a May 1979 problem contained a foreign tax credit. Since 1979, five multiple-choice questions have concerned either taxability of foreign dividends or foreign tax credit.

Use of the Foreign Auditor

International questions have appeared regularly but infrequently in the auditing section concerning foreign currency translation issues, foreign tax considerations, and foreign exchange instruments. The other auditing topic was the use of the work of a foreign auditor.

This latter topic is included in problems dealing with the principal auditor using the work of another auditor. Unless the word "foreign" or "international" was included in the question, it was not tabulated in this study. Nevertheless, the topic has been included formally in an international setting as a required twenty-minute problem in November 1930 and as a thirty-minute problem in November 1969, and in multiple-choice questions in November 1967 and November 1982.

SUMMARY

In the early years of the U. S. CPA Examination, the international problems were lengthy and constituted 3 percent of its total time. During this early period, the examination covered a broad range of topics dealing with foreign currency translation, foreign exchange instruments, and foreign trade issues.

After the post–World War II decade, the international content of the U. S. Uniform CPA Examination has been more consistent, averaging nearly 1 percent of the time required during the examination. The wider use of multiple-choice questions has increased the appearance of international issues in the examination. Most of the recent issues, however, concern not only foreign currency translation issues but also foreign tax considerations and issues related to the Foreign Corrupt Practices Act.

The most critical observation to be made from this analysis is that, except for the determination of the gain or loss from borrowing abroad, the examination has had no management accounting problems for multinationals or, for that matter, for importers and exporters.[7] Neither have questions appeared referring to the studies of the Accountants International Study Group (AISG), to the issued standards of the International Accounting Standards Committee (IASC), or to the guidelines issued by the International Federation of Accountants (IFAC), groups having representatives and the support of the American Institute of Certified Public Accountants.

Certainly the AISG studies and the IASC and the IFAC issuances, in addition to Accounting Research Study No. 12 and Statements of the Financial Accounting Standards Board Nos. 1, 8, and 20, now replaced by No. 52, provide a large selection of authoritative material from which to draw examination questions. With the recognized need for professional accountants to support the international accounting and auditing standards and the need to record foreign exchange transactions, to manage foreign exchange risk, and to issue audit opinions on international financial statements accurately and fairly, the international financial and managerial accounting content of the CPA examination may continue to increase slowly. As this happens, additional classroom instruction in international accounting and auditing will be required. The instruction must be through either a separate international course or the internationalization of existing courses. Certainly, the young aspiring accountant must achieve a global orientation to become a world business leader.

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[7] A concern for inclusion of management services topics in the exam was expressed twenty-five years ago; see Mortin F. Moss, "Management Services and the CPA Examination," *Accounting Review* (October 1962), 730–40.

Ratio Scales, Foreign Exchange Rates, and the Problem of Foreign Currency Translation: An Analytical-Empirical Perspective

MOUSTAFA F. ABDEL-MAGID and JOSEPH K. CHEUNG*

The existence and continued expansion of multinational enterprises have created major difficulties in the measurement and evaluation of micro- and macroeconomic data, such as foreign commercial operations. Problems of accounting for foreign operations may be classified into two main groups: (1) financial accounting (translation, consolidation, segment reporting, inflation accounting, disclosure, and auditing), and (2) managerial accounting (risk and exposure measurement, foreign investment analysis, information systems, transfer pricing, control and performance evaluation, operational auditing, and related behavioral dimensions).[1] This paper focuses on *only* translations for the purpose of consolidation.

The translation issue has gained significant attention since fixed exchange rates were abandoned and were replaced by fluctuating rates. When multiple rates prevail during the year, accountants must select and justify a particular exchange rate for translating the financial statements of foreign subsidiaries (which are usually stated in foreign currencies) before these statements can be consolidated with the financial statements of the parent (which are usually stated in the domestic currency, such as the U. S. dollar). The translation/consolidation process of the balance sheets of a parent and its subsidiaries has led to several accounting methods,

* Moustafa F. Abdel-Magid and Joseph K. Cheung are Associate Professors of Accounting, Faculty of Business, Simon Fraser University, Canada.

[1] Hanns-Martin Schoenfeld, "International Accounting: Development, Issues, and Future Directions," *Journal of International Business* (Fall 1982), 83.

including the current/noncurrent method, the monetary/nonmonetary method, the temporal method, and the closing rate method. The translation of income statements for the purpose of consolidation typically uses a type of average or weighted-average rate for the year. All of these translation methods have been debated in the accounting literature for many years, and several issues associated with their application remain unresolved.

More importantly, existing methods of foreign currency translation are mainly recommended by the accounting policy-making bodies on the basis of a priori argument. No theoretical foundation has been given, however, to define the analytical properties of these methods. From an empirical perspective, accountants arbitrarily select a single rate or an average rate that does not reflect the empirical properties of the multiple rates existing during the year. The arbitrarily selected translation rate is a biased rate. When such a clearly biased rate is used to translate foreign accounts, the reliability of the resulting figures can be questioned. In brief, existing translation practices lack satisfactory theoretical and empirical foundations.

OBJECTIVES

This paper attempts to develop and justify a procedure that provides a translation rate with both analytical and empirical support. The translation-consolidation process is examined first from a measurement-theory perspective. The focus of this analysis is on the analytical properties of ratio scales in relation to an accounting translation rate. Next, econometric methods are applied to observed exchange rates to produce, in a finite number of steps, a minimum-error, unambiguous, and nonarbitrary translation rate that preserves the empirical properties of multiple exchange rates. This derived rate will be referred to as the least-squares rate (LSR). Finally, to demonstrate the significance of the proposed method, the least-squares rate and the closing rate (CR) method adopted in statement of Financial Accounting Standard (SFAS) No. 52, are used to translate the financial data of fourteen foreign subsidiaries (see Apendix A). Translated financial data of these subsidiaries are compared to demonstrate the impact of each translation method on the volatility of three accounting variables: (1) net assets, (2) net income, and (3) return on equity.

The LSR approach proposed in this paper is a significant departure from conventional translation methods. A theoretical specification of the translation-consolidation problem as viewed by the authors is given.

THEORETICAL SPECIFICATION

Assumptions

No. 1. The primary purpose of translating the accounts of a foreign subsidiary is to consolidate these accounts with the domestic accounts of the parent. *Foreign subsidiary* is defined as a firm satisfying all of the economic indicators given in SFAS No. 52 (Appendix B) for its functional currency to be considered that of a foreign currency.

No. 2. The untranslated financial statements of a foreign subsidiary are prepared in accordance with the generally accepted accounting principles used by the parent company to prepare its general-purpose financial statements.

No. 3. Foreign operations exist primarily as a source of domestic currency cash flows to the domestic parent.

No. 4. The goal of a foreign subsidiary is to maximize net assets remittable to the parent in the parent's domestic currency.

No. 5. The purpose of consolidating the accounts of a foreign subsidiary with the accounts of the domestic parent is to provide the management and the shareholders of the parent company with information that is useful for the periodic evaluation of the subsidiary as a portfolio of risky assets.

Proposition 1

The parent company's interest in a foreign subsidiary is in the net investment rather than in the identifiable assets and liabilities of the subsidiary.

Contention. The authors contend that measurement theory provides a relevant theoretical framework for analyzing the accounting issue of the translation-consolidation process. Support for this contention is found in the analytical studies that established accounting as a measurement process.[2] More recently, Patz has proposed measurement theory as an appropriate framework for the analysis of foreign currency issues.[3]

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[2] Moustafa F. Abdel-Magid, "Toward a Better Understanding of the Role of Measurement in Accounting," *Accounting Review* (April 1979); Ronald S. Lim, "The Mathematical Propriety of Accounting Measurements and Calculations, *Accounting Review* (October 1966); Richard Mattessich, *Accounting and Analytical Methods* (Houston: Scholars Books, 1964/1977); Maurice Moonitz, "Price-Level Accounting and Scales of Measurement," *Accounting Review* (July 1970); R. J. Chambers, *Accounting, Evolution, and Economic Behavior* (Englewood Cliffs, N.J.: Prentice-Hall, 1966); and Robert R. Sterling, *Theory of the Measurement of Enterprise Income* (Lawrence, Kansas: University of Kansas Press, 1970).

[3] Dennis H. Patz, "The State of the Art in Translation Theory," *Journal of Business Finance and Accounting* (Autumn 1977); and Dennis H. Patz, "A Price Parity Theory of Translation," *Accounting and Business Research* (Winter 1977).

Once the general tone and direction of the measurement theory is accepted, most issues and questions often considered major either become easily answered or can be readily recognized and classified as questions of possible measurement error (including the possibility of incomplete measurement). For example, choice of appropriate translation factor is immediately evident. In order to measure a new unit of measure is required which expresses the attribute to be measured which is assumed in one form or another is possessed by all the objects and events to be measured. As a conversion attribute is involved, a conversion price is called for and an exchange rate clearly and uniquely meets this requirement. As to which exchange rate should be used in multiple rate situations, this question reduces to what rate evidences the empirical properties which imply the minimum periodic measurement error.[4]

When the translation-consolidation process is viewed from the perspective of measurement theory, the following three questions arise.

1. What objects are being measured? In the translation-consolidation process, the objects subject to measurement are a foreign subsidiary's remittable net assets.
2. Which attribute of these objects is subject to measurement? The attribute of foreign remittable net assets is their command over the domestic curency of the parent (i.e., U. S. dollars).
3. How can the relevant attribute be measured? The monetary numerosity in domestic currency measures the exchange value of remittable net assets in the parent's domestic markets.

Monetary numerosity in domestic currency measures the exchange value of remittable net assets in the parent's domestic markets.

Proposition 2

When changes in general price levels are considered in the translation-consolidation process, the correct approach is to translate, consolidate, and restate. This proposition implicitly rejects the price parity theory of translation.

THE NATURE OF TRANSLATION

Translation is an accounting process in which amounts measured in one scale are converted to amounts of another scale by applying the rules of transformation. It is similar to converting amounts from the English scale to the metric scale (e.g., inches into centimeters or ounces to grams). Scales used to perform these transformations are known as ratio scales. Similarly, amounts of remittable net assets measured in foreign currency are transformed

[4] Patz, "The State of the Art in Translation Theory."

to amounts of domestic currency by means of ratio scales. The rule of transformation is simple and requires only the multiplication of the foreign amounts by a conversion factor (i.e., an exchange rate) to obtain the equivalent amount in domestic currency.

The translation-consolidation process consists of simple mathematical operations if the exchange rate between foreign and domestic currencies remains constant over the accounting period; translation involves multiplication by a constant. Exchange rates vary over time, however, in response to supply and demand factors. The variability in exchange rates due to multiple rates over time is the major difficulty in the translation process. This reality is best described by a time series, where an arbitrarily selected daily rate does not reflect the empirical properties of the time series.

Stated differently, financial data of foreign subsidiaries also have a time dimension. When translation is performed at the end of the year using an arbitrarily daily rate (e.g., the closing rate), the empirical contents of the data are lost as a result of the temporal dimensions of financial data and foreign exchange rates. The perfect solution to this problem is to translate the accounts of foreign subsidiaries daily and instantaneously. Instantaneous translation is of little relevance, however, to the operations of a subsidiary whose economic activities are highly localized. In addition, daily translation is costly and impractical. A satisfactory solution to this problem involves applying econometric methods to observed exchange rates for the year to derive a constant that reflects the maximum empirical properties of multiple rates. Such a constant is obtainable if the behavior of multiple rates can be linearized. By using a least-squares estimation equation, a minimum-error exchange rate can be obtained. The estimated least-squares exchange rate is a constant that allows linear transformations on ratio scales.

FOREIGN CURRENCY TRANSLATION AS A LINEAR TRANSFORMATION

If a U. S. company has subsidiaries in Great Britain, Canada, West Germany, and France, the net assets and net income of these subsidiaries are measured on five different ratio scales of monetary numerosity: the U. S. dollar scale; the British-pound scale; the Canadian-dollar scale; the German-mark scale; and the French-franc scale.

When measured on a ratio scale, the value of net assets or net income of the subsidiary is a linear function. The linear function is a valid presentation of accounting data only under two conditions:

Exhibit 1. Values of Assets, Liabilities, and Income Determination

$$V = F(x^*)$$
$$V = F(x)$$
$$V = F(x\dagger)$$
$$V = F(x\ddagger)$$
$$V = F(\S)$$

x^* = ax English pound
V = F(x) U.S. dollar
$x\dagger$ = bx Canadian dollar
$x\ddagger$ = cx German mark
$x\S$ = dx French franc

(1) the attribute being measured is the monetary numerosity of net assets or net income; and (2) the measurement unit is a constant currency unit. If an asset is written off, its value is zero in an absolute sense. It is zero for all five scales: the U. S. dollar, the British pound, the Canadian dollar, the German mark, and the French franc, since mathematically all ratio scales are known as a similarity group. Thus, all of these scales must intersect at zero.

As long as the linearity conditions of ratio scales are satisfied, the translation of accounting variables from one currency to another involves simple linear transformations. The rule of transformation from one ratio scale into another involves multiplication by a constant (i.e., $x' = ax$, where a, the conversion factor, is a constant). The transformed amounts preserve the empirical contents of the original amount. This is possible because the fundamental attribute of ratio scales is the mathematical property of invariance (i.e., ratio scales allow linear transformation of one magnitude into another while preserving the empirical contents of both magnitudes).

Exhibit 1 presents the transformations from these currencies to the U. S. dollar, which depend on only the magnitude of the coefficients, a, b, c, or d, respectively. These coefficients or translation rates represent the reciprocal value of the exchange rates of the U. S. dollar to each respective currency.

LINEAR TRANSFORMATIONS

To obtain a translation rate that is consistent with the tenets of ratio scales and that also reflects the maximum empirical properties of multiple exchanges, the following procedures were used:

1. Daily exchange rates between the U. S. dollar and the German mark, the French franc, and the pound sterling were plotted as a time series.

2. Each plot was visually inspected to gain an initial understanding of the behavior of multiple rates of a given currency during each of the four years under investigation. The inspection of the plots clearly suggest that, with two exceptions, the underlying relationships are of a polynomial form.
3. To determine the best fit for the observations of a given year, the following estimating equation was structured.

A linear equation of the form

$$Y = \alpha_0 + \beta_1 T \tag{1}$$

presents no special problem for the estimating equation

$$Y = \hat{\alpha}_0 + \hat{\beta}_1 T + \epsilon \tag{2}$$

A second degree nonlinear function of the form

$$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 \tag{3}$$

was also used. To estimate a classical linear regression for this type of function, a new function,

$$Y = \hat{\alpha}_0 + \hat{\beta}_1 T + \hat{\beta}_2 X + \epsilon \tag{4}$$

was created by structuring a new independent variable X, whose observations are the square of the observations on T. Similarly, for a third-degree nonlinear function,

$$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3 \tag{5}$$

classical linear regression was estimated by creating a new function,

$$Y = \hat{\alpha}_0 + \hat{\beta}_1 T + \hat{\beta}_2 X + \hat{\beta}_3 Z + \epsilon \tag{6}$$

where Z equals the cube of T.[5]

The transformation of a nonlinear function into linear form does not alter the fundamental properties of the underlying relationships of the original variables. The function is still nonlinear in its (original) conditioning variables, but only linear in parameters.[6]

From equations (1), (3), and (4), the dependent variable Y (daily exchange rate) can now be regressed on the structured independent

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[5] Equations (4) and (6) are both linear and additive in the structural regressors T, X, and Z. For a discussion of the properties of linearity and additivity, see Goldberger, *Topics of Regression Analysis* (New York: Macmillan, 1968), 107.
[6] See Peter Kennedy, *A Guide to Econometrics* (Cambridge, Mass.: MIT Press, 1979), 60.

regressors T, X, and Z using the ordinary least squares to estimate the parameters $\hat{\alpha}_0$, $\hat{\beta}_1$, $\hat{\beta}_2$, and $\hat{\beta}_3$. The R^2 statistic retains its traditional properties, and standard hypothesis tests are valid.

An initial estimation of equations (1), (3), and (5) using daily observations was highly unsatisfactory on the basis of the degree of autocorrelation of the residuals. This could be expected since autocorrelated errors arise most frequently in time-series models. In time-series data, random shocks (disturbances) to exchange rates may have effects that often persist over more than one time period. To minimize the degree of autocorrelation, weekly averages were constructed from the daily observations.

Three regressions were applied to the observations of each currency for each year under three different assumptions: (1) linear, (2) second-degree polynomial, and (3) third-degree polynomial. The best fit for each year's multiple rates of a particular currency was selected on the basis of the value of R^2 and the significance of the t-test values. The results of the estimation process have shown significant values for R^2 and the t-test over the ten-year period. The low values of the Durbin-Watson statistics suggest, however, that autocorrelation was still serious[7]; this has the effect of reducing the confidence in the values of R^2. Alternative regression models were then applied to the observations to identify a model with minimum autocorrelation and acceptable values for R^2 and the t-test. The results of this experiment are presented in Exhibits 2, 3, and 4. The data in the exhibits clearly indicate first-order moving-average estimated via generalized least squares (GLS MAV^1) was the best possible model. The GLS MAV^1 model was then used to derive the estimating equations for translation rates for the period 1975–84. The results are reported in Exhibit 5.

THE SIGNIFICANCE OF THE PROPOSED METHOD

As a ratio scale, the translation rate under the least-squares method (LSR) necessarily contains more information than any other translation rate. The average rate (AR) for translating the income statement under SFAS No. 52, for instance, assumes some simple averaging of the monthly exchange rates, thus losing information derivable from multiple rates in the interim. Likewise, the current rate (CR) for translating assets and liabilities under SFAS No. 52

[7] An alternative estimation using the well-known Box and Cox transformations was also employed. The results were identical to the original estimation using ordinary least squares and are therefore not reported. See G. E. P. Box and D. R. Cox, "An Analysis of Transformations," *Journal of the Royal Statistical Society*, B, 26 (1964), 211–43.

Exhibit 2. Pound Sterling Results for Generalized Least-Squares Regressions (1975–84)

	a_0	β_1	β_2	β_3	DW	R^2	F
1975							
Third-degree polynomial	.4285	−.00327	.00023	−.000003	1.51	.97	617.9
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(175.70)	(−7.71*)	(11.69)	(−10.95)			
1976							
Second-degree polynomial	.4798	.00399	−.00003	—	1.06	.87	175.8
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2$	(83.45)	(7.82)	(−3.22)				
1977							
Third-degree polynomial	.5868	−.0009	.00006	−.000001	1.78	.95	319.01
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(300.97)	(−2.83)	(4.03)	(−6.64)			
1978							
Third-degree polynomial	.5039	−.00461	−.00018	.000002	1.10	.58	24.81
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(91.92)	(4.89)	(−4.22)	(3.20)			
1979							
Second-degree polynomial	.5077	−.00225	.000025	—	.89	.58	36.48
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2$	(100.60)	(−4.97)	(3.00)				
1980							
Third-degree polynomial	.4366	.00243	−.00016	−.000002	1.28	.67	36.06
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(99.35)	(3.31)	(−4.97)	(5.32)			
1981							
Second-degree polynomial	.3908	.00714	−.000087	—	1.22	.88	180.3
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2$	(58.43)	(11.50)	(−7.20)				
1982							
Third-degree polynomial	.5177	.0043	−.000128	.000002	1.52	.90	151.7
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(113.27)	(5.50)	(−3.68)	(3.80)			
1983							
Second-degree polynomial	.6537	−.00102)	.000041	—	1.398	.67	47.08
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2$	(151.77)	(−2.40)	(4.74)				
1984							
Third-degree polynomial	.7108	−.0040	.00026	−.000003	1.47	.92	204.45
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(88.16)	(−2.99)	(4.39)	(−3.50)			

* Numbers in parentheses denote t statistic.

Exhibit 3. French Franc Results for Generalized Least-Squares Regressions (1975–84)

	a_0	β_1	β_2	β_3	DW	R^2	F
1975							
Third-degree polynomial	4.4844	−.05272	.00222	−.000024	.82	.65	31.6
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(102.55)	(−6.74*)	(6.08)	(−4.98)			
1976							
Third-degree polynomial	4.4300	.01086	.00030	−.000006	1.48	.91	188.3
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(149.91)	(2.18)	(1.36)	(−2.15)			
1977							
Linear	5.0017	−.00346	—	—	1.03	.65	95.18
$Y = \alpha_0 + \beta_1 T$	(462.31)	(−9.70)					
1978							
Third-degree polynomial	4.7106	.01214	−.00117	.000015	1.39	.79	64.32
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(102.98)	(1.56)	(−3.34)	(3.47)			
1979							
Third-degree polynomial	4.1853	.01979	−.00069	.000005	1.33	.69	39.68
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(176.46)	(4.61)	(−3.43)	(1.97)			
1980							
Third-degree polynomial	3.9692	.04595	−.00239	.000035	1.09	.67	34.26
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(78.81)	(5.18)	(−5.91)	(6.69)			
1981							
Second-degree polynomial	4.425	.07431	−.00103	—	1.30	.83	116.64
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2$	(59.85)	(10.65)	(−7.50)				
1982							
Third-degree polynomial	5.8788	−01682	.00305	−.000046	1.15	.86	104.1
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(60.67)	(−1.00)	(3.96)	(−4.67)			
1983							
Second-degree polynomial	6.585	.05109	−.000334	—	1.63	.93	344.3
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2$	(112.5)	(9.95)	(−3.54)				
1984							
Third-degree polynomial	8.695	−.09474	.0048	−.000052	1.36	.86	103.3
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(85.10)	(−5.57)	(6.36)	(−5.52)			

* Numbers in parentheses denote t statistic.

Exhibit 4. Deutsche Mark Results for Generalized Least-Squares Regressions (1975–84)

	a_0	β_1	β_2	β_3	DW	R^2	F
1975							
Third-degree polynomial	2.4077	−.01988	.00119	−.000014	.91	.85	98.49
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(113.22)	(−5.14*)	(6.53)	(−6.02)			
1976							
Third-degree polynomial	2.5931	−.00344	.00015	−.000003	.93	.87	113.56
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(195.35)	(−1.52)	(1.50)	(−2.70)			
1977							
Second-degree polynomial	2.3707	.00248	−.00013	—	.93	.84	130.84
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2$	(188.46)	(2.21)	(−6.25)				
1978							
Linear equation	2.1297	−.00474	—	—	.74	.79	192.85
$Y = \alpha_0 + \beta_1 T$	(285.61)	(−13.88)					
1979							
Third-degree polynomial	1.8210	.00925	−.00037	−.000003	1.21	.78	60.45
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(152.23)	(4.46)	(−3.99)	(2.69)			
1980							
Third-degree polynomial	1.6975	.0190	−.00094	.000013	1.12	.64	31.3
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(67.64)	(4.46)	(−4.91)	(5.59)			
1981							
Second-degree polynomial	1.9092	.03114	−.000515	—	1.13	.71	58.59
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2$	(56.53)	(9.66)	(−8.06)				
1982							
Second-degree polynomial	2.258	.0095	−.01077	—	1.02	.58	36.27
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2$	(99.95)	(4.78)	(−2.81)				
1983							
Linear equation	2.3583	.00744	—	—	1.10	.85	293.73
$Y = \alpha_0 + \beta_1 T$	(179.97)	(17.14)					
1984							
Third-degree polynomial	2.8359	−.0320	.00161	−.000017	1.34	.85	97.03
$Y = \alpha_0 + \beta_1 T + \beta_2 T^2 + \beta_3 T^3$	(80.88)	(−5.48)	(6.20)	(−5.36)			

* Numbers in parentheses denote t statistic.

Exhibit 5. Generalized Least-Squares Estimates of Translation Rates

Year	Pound sterling	French franc	Deutsche mark
1975	0.4940	4.4526	2.6319
1976	0.6051	4.9731	2.3418
1977	0.5238	4.8218	2.1481
1978	0.4959	4.3295	1.8832
1979	0.4593	4.0625	1.7333
1980	0.4343	4.6860	2.0271
1981	0.5268	5.5040	2.1359
1982	0.6342	6.7834	2.4773
1983	0.6963	8.3385	2.7452
1984	0.8376	9.4361	3.1350

discards all of the interim observations of the multiple exchange rate during the year. The authors hypothesize, therefore, that the LSR contains more information than the AR, and much more so than the CR. To test the hypothesis, several accounting variables of a sample of foreign subsidaries of U. S. parents were translated using both the LSR method and the SFAS No. 52 method, and the volatilities of these variables under the two methods were compared.

Data

From *Moody's International,* the authors identified fourteen U. S. subsidiaries, six located in West Germany and eight in the United Kingdom, that satisfied two criteria: (1) at least four years' available financial statements, and (2) a fiscal year-end of December 31.[8] As Appendix A indicates, these time series are not very long; the range is four to seven years.[9]

From these financial statements three time series for each sample firm were calculated: net assets, net income, and return on equity. For each firm in the sample, the three financial time series were translated using the least squares method and the SFAS No. 52 method. The rates used in the translation are presented in Exhibit 6. Specifically, each year's estimated LSR was used for each of the three financial variables. In accordance with SFAS No. 52, net income was translated using the average rate and net assets using the current rate. Each sample firm has six translated time series,

[8] This criterion eliminated two subsidiaries in France and two in the United Kingdom that otherwise would have been included. Note that this is not a restriction in actual application of the LS method, but the LSR must be estimated using a synchronous time series.

[9] *Moody's International* was first published in 1981, although it carried financial statements for some companies as early as 1978.

Exhibit 6. Least-Squares and SFAS No. 52 Translation Rates*

	Pound sterling			Deutsche mark		
	Least-	SFAS No. 52		Least-	SFAS No. 52	
Year	squares rate	Average rate	Current rate	squares rate	Average rate	Current rate
1978	.4959	.5215	.4785	1.8832	2.0084	1.7367
1979	.4593	.4722	.4496	1.7333	1.8336	1.7315
1980	.4343	.4301	.4193	2.0271	1.8203	1.9590
1981	.5268	.4978	.5241	2.1359	2.2608	2.2548
1982	.6342	.5732	.6894	2.4773	2.4289	2.3765
1983	.6963	.6601	.6194	2.7452	2.5555	2.7238
1984	.8376	.7513	.8647	3.1350	2.8453	3.1480

* Each entry represents the number of foreign currency units per $1 (U.S.).

three using the LSR method, and three using the SFAS No. 52 method. For each time series, the standard deviation and the coefficient of variation (standard deviation divided by the mean) were computed.

The statistical hypotheses can be stated as follows. For each i = net asset, net income, return on equity,

1. H_o: $S_{i,LS} = S_{i,52}$
   H_a: $S_{i,LS} < S_{i,52}$
2. H_o: $CV_{i,LS} = CV_{i,52}$
   H_a: $CV_{i,LS} < CV_{i,52}$

where S = standard deviation
CV = coefficient of variation
LS = under the least-squares method of translation
52 = under the SFAS No. 52 method of translation.

Note that as proposed because of the nature of the LS method, the LS rates, and thus the translation results, are necessarily less volatile than the SFAS No. 52 method rates and results. It is accordingly maintained that the tests should be one tailed.

The computed standard deviations are presented in Exhibit 7. For each financial variable, two standard-deviation statistics, one from the least-squares translation and the other from the SFAS No. 52 translation, exist. For example, for firm 1, the translated net asset under the least-squares method has a standard deviation (based on seven years' data) of $358.3 million, whereas its counterpart under SFAS No. 52 is $383.7 million. An asterisk is used

Exhibit 7. Comparing Standard Deviation for Each Financial Variable (in millions)

Firm	Net asset Least squares	Net asset SFAS No. 52	Net income Least squares	Net income SFAS No. 52	Return on assets Least squares	Return on assets SFAS No. 52	Return on equity Least squares	Return on equity SFAS No. 52
1	358.3	383.7*	210.3	211.7*	.084	.085*	.274	.286*
2	184.2	184.6*	176.8	182.2*	.086	.087*	.301	.312*
3	16.4	16.3	8.7	8.9*	.034	.035*	.095	.097*
4	161.9	160.1	13.3	10.5	.009	.012*	.018	.028*
5	72.3	72.8*	7.6	8.8*	.011	.012*	.036	.041*
6	228.7	229.5*	73.5	70.4	.047	.046*	.126	.122
7	39.5	47.9*	14.7	14.6	.027	.027	.049	.049
8	25.9	31.7*	32.0	33.6*	.126	.134*	.141	.149*
9	40.3	49.7*	23.0	23.8*	.038	.042*	.060	.063*
10	48.4	61.2*	134.2	140.6*	.131	.137*	.409	.434*
11	27.0	38.8*	52.2	53.7*	.111	.105	.227	.216
12	105.5	124.9*	34.3	37.3*	.015	.017*	.036	.035
13	9.8	12.2*	4.7	4.5	.020	.017	.034	.030
14	45.7	47.8*	15.3	15.7*	.066	.068*	.131	.136*

* Standard deviation under the least-squares method is less than that under the SFAS No. 52 method.

to indicate where the standard deviation under SFAS No. 52 exceeds that under the least-squares method. Overall, the statistics suggest that the SFAS No. 52 method results in translations that are more volatile than those in the LS method.

Exhibit 8 essentially makes the same comparison but uses the coefficient of variation. Note that, unlike Exhibit 7, casual observation in this case no longer gives the impression that the translation results under SFAS No. 52 are more volatile.

Finally, for each financial variable, the Wilcoxon Signed Rank Test for Matched Pairs was used to compare the two translated results cross-sectionally. This test statistic was chosen because (1) the two translated results are not independent, and (2) no knowledge regarding the cross-sectional distribution of either the CV or the standard deviation for any of the financial *variables* exists.[10]

The probabilities that the null hypotheses can be rejected in favor of the alternate hypothesis are presented in Exhibit 9. For example, by comparing the coefficients of variation of the translated net assets, the null hypothesis can be rejected at the 1 percent

[10] For a detailed discussion of the Wilcoxon Signed Rank Test for Matched Pairs, see M. Hollander and D. Wolfe, *Nonparametric Statistical Methods* (New York: John Wiley, 1973).

Exhibit 8. Comparing Coefficients of Variation for Each Financial Variable

	Net asset		Net income		Return on equity	
Firm	Least squares	SFAS No. 52	Least squares	SFAS No. 52	Least squares	SFAS No. 52
1	.42	.44*	8.06	8.17*	−19.57	−13.62
2	.34	.34	5.09	6.82*	11.58	24.00*
3	.19	.19	1.57	1.53	1.46	1.41
4	.13	.12	.05	.04	.09	.14*
5	.25	.25	.42	.46*	.54	.59*
6	.39	.39	.73	.70	.75	.73
7	.14	.16	.73	.72	.72	.73*
8	.13	.16	−2.23	−2.13	−2.17	−1.99
9	.12	.14*	.45	.45	.41	.41
10	.14	.17*	3.41	3.87*	4.09	6.38*
11	.12	.17*	−4.78	−5.22*	−3.55	−3.27
12	.28	.32*	.46	.46	.19	.18
13	.08	.10*	.42	.40	.38	.35
14	.36	.37*	−6.78	−6.18	−5.46	−5.91*

* Absolute value of the coefficient of variation under the least-squares method is less than that under the SFAS No. 52 method.

Exhibit 9. One-Tailed Probabilities That the Translated Financials under SFAS No. 52 Are More Volatile Than Those under the Least-Squares Method

Financial variables	Comparing coefficients of variation	Comparing standard deviations
Net assets	.0066	.0018
Net income	.1228	.0481
Return on equity	.0788	.0403

Note: All results are based on the Wilcoxon Signed Rank Test for Matched Pairs.

level of significance in favor of the alternate hypothesis that the CV under SFAS No. 52 exceeds that under the LS method. The results as a whole tend strongly to support the basic hypothesis. As Exhibit 9 indicates, by comparing the CV, the null hypothesis is rejected once (net assets) at the 1 percent level, and once (return on equity) at the 10 percent level. By comparing the standard deviations, the null hypothesis is rejected three times at the 5 percent level.

In sum, the statistical tests tend to support the contention that the LS method is less volatile. As argued earlier, this is because the LS method tends to maximize the available information when multiple exchange rates prevail.

SUMMARY

A basic accounting problem in translating foreign financial statements is the choice of a valid exchange rate. Based on the premise that existing translation methods lack analytical and empirical validity, this study argues that the desirable choice should reflect the behavior of multiple exchange rates during the fiscal year in question, thus maximizing its information content. How the generalized least-squares method can be used to estimate such a rate is described. The least-squares method minimizes the estimation error and is therefore expected to be less "noisy" than those rates presently used. In particular, the paper hypothesizes that the time series of the translated financial variables will be less volatile under this method than, for example, the average rate or the closing rate method. This hypothesis was tested using selected financial variables of fourteen foreign subsidiaries, and the evidence supports the contention.

APPENDIX A: SAMPLE COMPANIES

Company name	Location	Data available
Adam	West Germany	1978–84
Ford-Weske	West Germany	1979–84
Gerresheimer	West Germany	1979–84
IBM	West Germany	1979, 82–84
Standard Elaktrik Lorenz	West Germany	1979–84
Texaco	West Germany	1979–84
Albright and Wilson	United Kingdom	1979–84
Hoover	United Kingdom	1978–79, 81–82
Kodak	United Kingdom	1979–84
Mobil — U.K.	United Kingdom	1979–83
Monsanto	United Kingdom	1979–83
Standard Telephone Cables	United Kingdom	1978–84
USMC International	United Kingdom	1978–81
United Glass	United Kingdom	1979–84

APPENDIX B: ECONOMIC INDICATORS THAT DEFINE A FOREIGN SUBSIDARY AS USED IN THIS STUDY

Economic factors	Functional currency is foreign currency (FC)
Cash-flow indicators	Cash flows are primarily in the foreign currency and do not directly impact the parent's cash flows.
Sales-price indicators	Selling prices are determined primarily by local competition or government regulation, not by short-term changes in exchange rates.
Sales market	Active local sales market for the entity's products
Expense indicators	Costs of labor, materials, and so forth are primarily local costs.
Financing indicators	Financing is primarily denominated in the foreign currency and is serviced by foreign currency cash flows generated in the foreign country.
Intercompany transactions and arrangements indicators	Low volume of intercompany transactions and minimal relationship between the operations of the foreign entity and the parent

Transfer Pricing Policies of Diversified U. S.–Based Multinationals

LEON B. HOSHOWER and LINDA ANN MANDEL*

Many studies on the particular aspects of transfer pricing policies in multinational corporations have been undertaken. Tang published a comparison of transfer pricing practices in the United States and Japan.[1] Yunker studied the implications of transfer pricing policies upon the performance evaluation of both corporate executives and divisional managers.[2]

Other research in this area, such as that presented by Business International Corporation of New York,[3] has usually discussed a pricing method that could be employed by a corporation. Such research usually includes a discussion of the advantages and disadvantages of the method. Relatively little empirical research exists, however, as to the types of pricing methods actually used by multinational corporations.

Plasschaert suggests three reasons for the meager factual evidence.[4] One is the reluctance of managers of these multinational

*Leon B. Hoshower is Assistant Professor of Accounting at The Pennsylvania State University.

Linda Ann Mandel, an Honors Graduate in Accounting from The Pennsylvania State University, is a Law Student at Cornell University.

The authors express their appreciation to Kumar Chittipeddi, Parveen Gupta, and Robert Pitts for their assistance in the development of this paper.

[1] Roger Y. W. Tang, *Transfer Pricing Practices in the United States and Japan* (New York: Praeger, 1979).

[2] Penelope J. Yunker, *Transfer Pricing and Performance Evaluation in Multinational Corporations, A Survey Study* (New York: Praeger, 1982).

[3] "Setting Intracompany Pricing," Business International Corporation of New York (Management Monographs Series, 1979).

[4] Sylvain Plasschaert, *Transfer Pricing and Multinational Corporations* (New York: Praeger, 1979).

corporations to discuss the transfer pricing issue with people outside the corporation. Another is that the transfer pricing policies may vary according to several factors, including environmental conditions (i.e., government regulations and market conditions, the product characteristics themselves, and the degree of integration of the manufacturing process or distribution system). Finally, this maze of factors can combine to make predictions of corporate behavior difficult, thus hindering theory verification.

Robert Eccles explored the area of transfer pricing.[5] After interviewing 150 managers from thirteen firms, he theorized that transfer pricing practices should be a function of the interaction of a firm's diversity of product line, its vertical integration within the manufacturing process, and the firm's emphasis on interdependence or independence of its operating units. Eccles' suggested transfer pricing strategies are, however, normative and have not been empirically tested.

According to Eccles, highly diversified firms should use market-based transfer prices. The form for these market-based pricing policies should differ according to the amount of vertical integration within the firm's manufacturing process. In order of increasing degree of vertical integration, these policies include no central policy, market-based constrained sourcing, market-based dual pricing, and centrally mandated market-based pricing. The policy of "no central policy" results in negotiated transfer prices between the divisions involved.

Considering the difficulties and possible confusion that could arise when numerous factors are considered, the present authors suggest that the transfer policies of a relatively homogenous group of firms could be accurately predicted and tested. With the belief that this focused approach would yield more clearly interpretable results than for nonhomogenous firms, the authors limited the scope of the paper to the transfer pricing practices of U. S.–based diversified, multinational firms. This population seems appropriate to observe as to whether highly diversified firms follow Eccles' transfer pricing suggestions.

IMPACT OF GOVERNMENTAL REGULATION AND SCRUTINY

Brooke and Remmers illustrate the strong incentive for the central management of multinationals to use transfer pricing to circumvent international tax structures and other regulations.[6] That is, central

[5] Robert Eccles, "Control with Fairness in Transfer Pricing," *Harvard Business Review* (November–December 1983), 149–61.

[6] M. Z. Brooke and H. L. Remmers, "The Theory of the Multinational Firm:

management could set transfer prices with the intent to minimize costs of its various income taxes, custom duties, capital repatriation limitations, currency exchange restrictions, and antidumping laws. A simplistic example of this is the possibility that a multinational could decrease its total income taxes by assigning a high transfer price to goods shipped to a country that has high marginal income tax rates. Conversely, goods shipped from a country that has high marginal income tax rates would be assigned a low transfer price.

The governments of the world have reacted to protect their own interests, especially where tax revenues are involved. Until 1962, many U. S.–based multinational corporations had subsidiaries in so called "tax-haven" countries, but the Internal Revenue Act of 1962 (especially section 482) closed at least some of the U. S. tax loopholes. Many other countries have also modified their tax laws to reduce or eliminate the inducements arising from tax differentials. These laws usually require the use of arm's length prices (market prices) whenever they are available. Thus, changes in tax laws and increased governmental surveillance have decreased multinationals' incentive to use transfer prices to avoid taxes. For example, the United Kingdom required Hoffman-LaRoche, a Swiss-based multinational, to recast its financial statements, replacing its own transfer prices with transfer prices that were mandated by the host country. This resulted in a 1.85 billion pound back tax liability.[7] To avoid the possibility of such governmental retribution, the authors hypothesize that diversified multinationals will use arm's length (market) prices whenever possible.

DECISION LEVEL

Diversified firms generally employ some form of decentralized organizational structure, allowing each major line of business to operate as a semiautonomous unit. As such, each division can exercise increased control over its product line, pricing policies, marketing and distribution channels, and other key aspects of operations. These divisions are then evaluated as profit centers or investment centers. To provide fair evaluations and to be consistent with decentralization, central management should allow the divisions the freedom to sell their products to external markets or to other divisions within the conglomerate without interference.

Optimal Behavior under Different Tariff and Tax Rates," *Journal of Political Economy*, vol. 79 (1971), 1059–72.

[7] "UK Tax Authorities Zero in on Multinationals' Intercorporate Transfer Pricing," *Business Europe* (18 June 1976), 193–94.

The adoption of a transfer pricing policy consistent with decentralization could yield the following results. First, the transfer pricing decisions could be made at the divisional, rather than central (corporate), management level. Second, transfer prices could be based on market prices or, if no market exists, transfer prices could be generated through negotiations between the divisions involved.

Transfer pricing decisions can be very complex, particularly in an integrated firm with large amounts of transfer activity. Such a complex environment could require coordination at the central management level. By centralizing the transfer pricing decision, all the factors can be accumulated and evaluated concurrently and a coherent, coordinated policy can be formulated. This may not be true, however, for diversified multinationals. Because the divisional activities of a diversified firm are less intertwined than those of an integrated firm, the level of transfer activity is expected to be low, and thus the resulting benefits from the centralized planning would be low. (The reported level of interdivisional transfer activity among the firms surveyed will be compared to the average transfer activity among large firms in general.) Central management edicts concerning transfer pricing could defeat many of the benefits of decentralization. Thus, in a diversified firm, the benefits of decentralized (divisional based) transfer pricing are likely to outweigh the benefits of centralized transfer pricing. This view is held by Eccles, who states:

> When business units do not depend on each other very much, the costs of local decisions that are not best from a corporate perspective are small compared with the problems created by a transfer policy which interferes with the stance of the impartial spectator and with the bottom-up and distributive bargaining processes.[8]

The bottom-up process is consistent with decision making occurring at the divisional rather than the corporate level.[9]

HYPOTHESES

The following two hypotheses of this paper are stated in the null form. Based on the theory presented previously, these hypotheses are directional and thus can be evaluated with a one-tailed test.

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[8] Eccles, "Fairness in Transfer Pricing," 152.

[9] For a more detailed explanation of the bottom-up process for handling corporate-business unit relationships and the distributive bargaining process in business unit-business unit relationships, see Richard E. Walton and David McKersie, *A Behavioral Theory of Labor Negotiations* (New York: McGraw-Hill, 1965).

H_o 1: The transfer-pricing decisions within diversified, multinational firms are as likely or more likely to occur at the central (corporate) management level rather than at the divisional level.

H_o 2: Transfer prices within diversified, multinational firms are as likely or more likely to be cost based rather than market based.

As previously stated, the authors hypothesize that negotiated transfer prices will be used when no clear market exists. Since a finished product will eventually be sold on the external market, the value of an intermediate component is dependent on both the market value of the finished product and the supply and demand for that intermediate component. Both of these forces are ultimately market determined. Thus, market forces indirectly impact on the negotiation process for an intermediate component. Consequently, for testing purposes, negotiated transfer prices are considered market based rather than cost based.

METHODOLOGY

The objective was to study the transfer pricing practices of diversified multinationals. Several steps were taken to select a sample which satisfied this objective. The forty-eight firms of the 1983 *Forbes* listing of diversified companies were selected as the initial sample group.[10] The criteria used by *Forbes* to select firms for this list is involvement "in at least four sizable and distinct lines of business" and diversity that is so extensive that the firms cannot be classified into one of the normal industry categories that *Forbes* uses.[11] The firms in this group are thus the most highly diversified enterprises in the *Forbes* one thousand list.

Next, each of these firms was screened for its level of nondomestic activity. According to the Financial Accounting Standard Board's Statement of Financial Accounting Standard No. 14, *Financial Reporting for Segments of a Business Enterprise,* an enterprise is required to report certain financial information by geographic area (nondomestic) if either (1) revenues from that geographic area are 10 percent or more of consolidated revenues or (2) identifiable assets in that geographic area are 10 percent or more of consolidated total assets.[12] Such a disclosure signifies that a firm has

[10] "Diversified Companies," *Forbes* (2 January 1984), 220–22.
[11] Ibid., 221.
[12] Martin A. Miller, *Miller's Comprehensive GAAP Guide* (Orlando, Fla.: Harcourt Brace Jovanovich, 1984).

considerable international economic activity. Thus, firms that disclosed foreign operations by geographical area were considered to be multinational and were retained in the sample; those not making such disclosures were eliminated. It is possible, for example, that a firm could have 8 percent of its sales or assets in Japan and 7 percent of its sales or assets in Europe and not make geographic segmental disclosures. Thus, some firms may have been eliminated from the sample although they have considerable multinational activities. Thirty-seven of the forty-eight firms made segmental geographic area disclosures in their 1983 annual reports and were thus retained in the sample.

A questionnaire was mailed to the corporate treasurer of each of the thirty-seven firms. It asked the following information: (1) the amount of interdivisional transfers; (2) the locus of the decision making; and (3) the general basis for setting transfer prices. (See Exhibit 1.) Twenty-five of the twenty-seven questionnaires returned were usable, yielding an unusually high response rate of 68 percent.

RESULTS

Because the divisions of these diversified firms are generally in distinctly different industrial groups, the authors expected the level of divisional transfer activity in this sample group to be lower than the transfer activity within vertically integrated firms and to be possibly lower than the transfer activity within nondiversified large firms. Vancil found that the average transfer activity of large industrial firms was 13 percent of total firm sales.[13] This average

Exhibit 1. Inter-Unit Transfers Questionnaire

The following questions pertain to your firm's interdivisional sales.

1. The amount of interdivisional transfers expressed as a percentage of total sales is as follows: less than 1%; 1–3%; 5–10%; 15–25%; 25% or more.
2. Which of the following best describes the policies and prices for product transfers between divisions within your firm? (A) It is a corporate-level management decision, (B) it is a divisional-level management decision.
3. At what prices are transfers between divisions generally made? (1) actual full cost; (2) standard full cost; (3) negotiated price; (4) cost plus investment; (5) market price; (6) no general pattern; (7) other. (Please explain.)
4. Do you wish this data to be kept confidential?
5. Do you wish to have a copy of the results of this study?

[13] Richard F. Vancil, *Decentralization, Managerial Ambiguity by Design* (Homewood, Ill.: Dow Jones-Irwin, 1978).

is greater than the reported transfer activity of all twenty-five respondents, thus reinforcing the hypothesis that the diversified, multinational firms surveyed had a relatively lower level of transfer activity than the general population of all large firms. (See Exhibit 2.) Seventeen of the twenty-five firms reported that transfer activity among the divisions was less than 1 percent of total firm sales. Four firms reported transfer activity to be between 1 and 3 percent; four firms reported 5 to 10 percent transfer activity; no firms reported activity of more than 15 percent.

Both hypotheses were tested using a binominal distribution with twenty-five drawings, the number of usable responses, and with a 50 percent chance of a "successful" drawing. If no tendency exists among firms to locate the transfer pricing decision at either the corporate or divisional levels, a 50 percent probability exists that the decision is located at either level.

As Exhibit 2 indicates, twenty of the twenty-five firms reported that transfer pricing decisions are made at the divisional level.

Exhibit 2. Survey Results

Amount of interdivisional transfers as a percentage of total company sales

%	Number	Totals	
<1	17	15–25%	0
1–3	4	>25%	0
5–10	4	N =	25

Locus of transfer pricing decisions

Corporate, 5; Division, 20

Pricing basis for transfers

Actual full cost	5	
Standard full cost	1	
Cost plus investment*	4	
Total cost based		10
Negotiated price	5	
Market price	10	
Total market based		15
No general pattern		0
		N = 25

* Eccles cites use of the cost-plus investment method of transfer pricing. This method transfers the intermediate good on a full-cost basis, but it also "transfers" the portion of the selling unit's assets used for internal needs to the books of the buying unit.

This result is significant at the less than .01 level; thus, hypothesis 1 is rejected.

Fifteen of the twenty-five firms reported that their interdivisional transfer prices are market based. The test of hypothesis 2 resulted in a significance level of .212. Thus, hypothesis 2 could not be rejected at conventional significance levels.

CONCLUSION

The study suffers several weaknesses that limit the generalizability of its findings. First, it examined only the very largest and most diversified U. S.–based multinational firms. Its results may therefore not apply to smaller, less diversified, non–U. S.-based, or primarily domestic, enterprises. Second, the response rate, although unusually high for a questionnaire survey, was nevertheless well below 100 percent. It is conceivable that the 32 percent of the sample that declined to respond may differ systematically from the 68 percent that responded. To the extent that such a difference may exist, however, the findings of the study may not entirely reflect current practice even among large, diversified multinational firms.

The survey results indicate that a significantly greater number of diversified, multinational, U. S.–based firms locate their transfer pricing decisions at the divisional rather than the central corporate level. This is consistent with the policy of decentralized management that one would expect in a conglomerate.

The test of the null hypothesis that transfer prices are as or more likely to be cost based rather than market based was significant at the .212 level and therefore the null could not be rejected. Failure to reject the null could be due to a lack of power caused by the small sample of twenty-five respondents. The small number of respondents was due, however, to a small population rather than to a low response rate.

It is improper to test Eccles' framework for transfer pricing with empirical data, since his framework is normative. That is, Eccles suggests a proper procedure for transfer pricing given a particular situation. Whether or not firms in fact follow that procedure does not effect the validity of his suggestion. It may be of interest, however, to determine whether firms' actions are congruent with Eccles' framework. If firms do not follow it, several possible explanations exist: (1) his framework is incomplete or incorrect; (2) the firms are behaving suboptimally; or (3) the research has miscategorized the firms surveyed. The divisional-based transfer pricing policy revealed by the present survey is consistent with Eccles' framework.

Although the hypothesis concerning cost-based versus market-based transfer policies could not be rejected, the majority, fifteen of twenty-five, of the respondents used market-based pricing. This is somewhat consistent with Eccles' framework but is not conclusive that his framework on cost- and market-based transfer pricing is being followed.

The survey described in this paper addressed one small portion of the transfer pricing arena. Other studies of diversified firms are necessary to validate this study. Investigations of vertically integrated firms would be useful for comparative purposes and to increase the empirical-based knowledge of transfer pricing.

Accounting in the Soviet Union

MARC I. LEBOW and RASOUL H. TONDKAR*

Accounting systems are designed to measure and report the economic activities of entities over a period of time. In Western (capitalist) countries, accounting information is used primarily either by external users (e. g., investors, creditors) or by internal users (e. g., corporate managers). In the Soviet Union, accounting information is used mainly by the central government for economic planning and control. Because of its different purpose for accounting information, the Soviet accounting system and practices differ from those of Western countries. These differences are, to some extent, the result of the different economic structures of Western countries and the Soviet Union. For example, the Soviet economy is based on the Communist precept that the "people" own all of the means of production; the ownership of specific assets is determined by the central government. In Western practice, individual ownership of assets is the norm.

In the Soviet Union, land and natural resources neither belong to any one enterprise nor are recorded on the balance sheet of a particular enterprise. The Communist system does not recognize economic costs for the use of capital, land, and natural resources. Therefore, depletion, rent, and interest expense are viewed as exploitive capitalistic practices and are not charged to the enterprise. Because all enterprises are owned by the state, "goodwill" is not entered on a Soviet balance sheet.[1]

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* Marc I. Lebow is Assistant Professor of Accounting, Virginia Union University. Rasoul H. Tondkar is Associate Professor of Accounting, Virginia Commonwealth University.

[1] Wayne M. Barker and Gyan Chandra, "Accounting Practices in a Socialist Economy: The Case of the Soviet Union," *National Public Accountant* (July 1975), 9.

Many similarities do exist, however, between Soviet and Western accounting systems and practices. Both systems use double-entry bookkeeping, the accrual basis for accounting, and a general ledger, together with a series of subsidiary ledgers to record the result of specific operations. Many of these similarities can be traced to Western influences that have shaped the development of Soviet accounting practices.

The role of enterprise accounting is very important in the Soviet Union's economic development. Virtually all of the economic information gathered by the government is generated through the enterprise accounting process. The Soviet Union's gross national product increased at an annual average rate of 7 to 8 percent from 1928 to 1961. The implementation of a standardized accounting system in the early and middle 1920s is credited as a major factor in that economic growth.[2]

Since the Soviet accounting system differs from that of Western countries, an understanding of Soviet accounting practices can be of interest to Western accountants. The purposes of this paper are (1) to discuss the historical development of accounting in the Soviet Union, (2) to review and discuss its existing accounting system, and (3) to evaluate the effectiveness of the existing accounting process.

HISTORICAL DEVELOPMENT OF ACCOUNTING IN THE SOVIET UNION

An appreciation of the historical development of the accounting profession in Russia before the formation of the Union of Soviet Socialist Republics (USSR) and then in the USSR is crucial to an understanding of the present system. The terms *Russia, Soviet Union* and *USSR* are used interchangeably in this paper.

The introduction of a modern accounting system in Russia is associated with the rise of absolute monarchies during the seventeenth and eighteenth centuries. Under Peter the Great, Russia built and maintained a large, highly trained army and navy. It quickly became apparent that the nation lacked the expertise to manage and control the resources needed to support these armed forces.[3] To establish the needed control, the government required the implementation and use of a modern accounting system.

In 1722, the Admiralty, one of the largest government ministries,

[2] George Gorelik, "Soviet Accounting, Planning, and Control," *Abacus* (June 1974), 21.
[3] Derek T. Bailey, "Accounting in Russia: The European Connection," *International Journal of Accounting* (Fall 1982), 12.

codified and issued a series of regulations for the fleet administration. Included in these regulations was a section on accounting that dictated the use of double-entry bookkeeping. This was the first large-scale introduction of double-entry accounting in Russia.[4] In 1740, the government issued the *Regulations on Bankrupts* that

> prescribed the keeping of the usual merchants' books "neatly, honestly, untorn and without alterations," and the closing of the books at the end of the year and the drafting of a balance sheet whenever it was desired to manage the affairs of an insolvent merchant.[5]

Unfortunately, the government did not strictly enforce these commercial laws.

Many accounting principles proposed and adopted in Russia can be traced to foreign, especially German, influences. During the eighteenth and nineteenth centuries, most accounting books published in Russia were either translations of books written in German or translated from their original language into German and then into Russian.[6] The Russian terms for debit, credit, balance, balance sheet, and bookkeeper are all borrowed, therefore, from the German language.[7]

During the 1880s, large amounts of capital from Western Europe were invested in Russian enterprises. Foreign firms usually used the accounting procedures of their home countries for their Russian subsidiaries. They also tended to keep their subsidiaries' records in their own languages, with minimum financial recording in Russian. Beginning in 1900, the Russian Ministry of Finance required foreign companies operating in Russia to prepare Russian-language versions of the final accounts and balance sheets of their Russian subsidiaries for tax purposes.[8]

These and other government requirements for the use of a double-entry bookkeeping system promoted the implementation of modern bookkeeping practices among the larger corporate entities in Russia. By 1916, double-entry bookkeeping was well established in the metallurgical and mining enterprises operated by the government, in nearly all large private enterprises, and in most other government agencies.[9]

The use of double-entry accounting, however, did not spread to

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[4] Ibid., 12.
[5] Ibid., 15.
[6] Ibid., 16.
[7] Ibid., 12.
[8] Ibid., 21.
[9] Ibid., 12.

the merchant classes. Smaller merchants feared that information from accurate accounting records would be used by the monarchy (which included the local aristocratic ruler) for tax purposes. Many small firms failed after the death of the owner/proprietor because the successor could not accurately determine the amount of accounts receivable. Failure to maintain accurate financial records was a major shortcoming in the development of Russian commerce.

Additionally, commercial markets in Tsarist Russia were poorly developed; much of the commercial trade was conducted through barter. Most Russian merchants, until the close of the nineteenth century, were itinerant traders who traveled from place to place peddling their goods. Little trade was conducted through credit, and most of the trading firms were owned and operated by a sole proprietor. Firms of this nature had little need to maintain extensive accounting records.[10] This hampered the development of an indigenous Russian accounting profession. The accounting profession did begin to develop in Russia toward the end of the nineteenth and the beginning of the twentieth centuries, however. The creation of a professional accounting association was first advocated by the journal *Schetovodstvo (Accounting)*, which was published in St. Petersburg from 1888 to 1904.

In October 1917, the Russian monarchy was overthrown, and a new government based on Communism eventually came to power. During the upheavals surrounding the October Revolution, most of the accounting systems that had been operating at the various Russian enterprises ceased to exist. Accountants were thought to be associated with capitalism and were targeted during the purges that followed the revolution and the subsequent establishment of the Soviet Union. As a result, many of the established accounting specialists left the country during this period.

The early revolutionary period was chaotic because Communist revolutionaries attempted to introduce the Marxist doctrine to a country that had barely developed beyond a feudalistic economy. The first attempts to establish new accounting rules under the Communist government failed because they based the accounting systems on "labor units" rather than on a monetary unit. These labor units were used so that the economic system would be in accordance with Marx's "labor theory of value."[11] Not until the introduction of the new economic policy of 1921 was a currency-based accounting system established nationwide. The creation of

[10] Ibid., 23.

[11] Barker and Chandra, "Accounting Practices in a Socialist Economy," 9.

the new accounting system in the Soviet Union was dependent on the few remaining Russian middle class accounting specialists. These people were largely teachers and graduates of commercial institutes that had been in operation before the revolution.[12]

During the latter half of the 1920s, Russian accounting specialists made a determined effort to adopt Western accounting principles as part of Lenin's concept of borrowing from the latest achievements of capitalism.[13] A resolution of the Council of People's Commissars dated September 8, 1923, made double-entry accounting mandatory for all enterprises except small traders and cottage industries. At this time, the Supreme Council for the National Economy was given responsibility for the conduct of state accounting enterprises. In 1925, this council issued a national chart of accounts, which was followed by regulations detailing the accounts to be debited and credited for different types of transactions. Interest in accounting during this period was indicated by the five periodicals devoted to accounting matters.[14]

In 1926, the State Trading Commission introduced a standardized system of accounting to be used nationwide. This system involved the used of a standardized accounting format including carbon-copy vouchers, preprinted forms, and subsidiary ledgers and control accounts. As with earlier Russian accounting systems, this one was largely adopted from the writings of German accounting specialists.[15]

The need to implement a standardized accounting system was partly due to the severe shortage of bookkeepers and accountants in the Soviet Union. The best means to ensure the widespread use of an effective accounting system was to standardize the accounting system and to simplify its implementation. In addition, throughout their history, the Russian people had been conditioned to follow rules dictated by higher authorities. Having the government develop and issue the accounting system to be used throughout the nation was a natural extension of this tradition.

The establishment of a standardized accounting system was imperative to the central planning and control of the economy. As the nation began its first widespread industrialization, the standardized accounting system functioned adequately by allowing the

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[12] Bailey, "Accounting in Russia," 26.
[13] Ibid.
[14] Derek T. Bailey, "The Accounting Profession in Russia," *Accountancy* (March 1977), 72.
[15] Bailey, "Accounting in Russia," 28–29.

government to gather the data needed for economic planning and control.

During the 1920s, a determined effort was made to organize workers, including accountants, throughout the nation. The first accounting workers' organization (ORU) was formed in Moscow in May 1924. It included all types of accounting workers and, because political loyalty was considered an important qualification for membership, only persons with five years' membership in an affiliated union were allowed to join. Similar accounting organizations were formed in other parts of the country. In 1931, ORUs were reorganized into the All Union Socialist Accounting Self-Help Society (VOSU). During 1924, the Institute of State Accounting Experts (IGBE) was formed as an organization for professional accountants. It was vested with the responsibility to verify the accounts of enterprises and institutions. Membership in the IGBE was divided into two classes: candidates and full members. A candidate was expected to be associated with a full member for two years before attaining full membership.[16]

During the 1930s, a fierce struggle began between the pro- and anti-Stalinist factions. Accounting theoreticians also waged intense debates in the various accounting publications as to whether the nation's accounting system should be based on historical or standard costs. When the Stalinists came to power, debate over accounting matters ended. In the spring of 1934, a series of accounting decrees was issued; these decrees became the basis of Soviet accounting principles and, with relatively few changes, are still being used. The new decrees dictated the use of historical cost accounting. Effective opposition to the use of historical cost was eliminated by the termination of all accounting publications during Stalin's regime (1929 to 1952).[17]

Under Stalin, the development of the accounting profession virtually ceased, and accountants' duties were reduced to mere bookkeeping functions. This was largely due to the economic and political turmoil during this period. The government concentrated on transforming the economy and the nation to reflect Communist ideals. In 1931, the IGBE was dissolved,[18] and in 1936, the VOSU was officially abolished.[19] Contact between Soviet and Western accountants was prohibited, and Soviet accountants were largely

[16] Ibid., p. 30.
[17] Bailey, "The Accounting Profession in Russia," 72.
[18] Bailey, "Accounting in Russia," 31.
[19] Bailey, "The Accounting Profession in Russia," 72.

unaware of major accounting developments occurring elsewhere in the world. During this time, however, the uniform accounting principles dictated by the government were disseminated to virtually all branches of the economy, and nearly all Soviet industrial enterprises adopted the standardized accounting system.[20]

The formation of a new accounting society was delayed because other economic priorities hampered the development of the accounting profession in the Soviet Union. Not until 1968 was another major effort made to organize Soviet accountants. This effort was directed through the Production Economics and Organization Committee of the Scientific and Technical Society (NTO), an umbrella organization of technical specialists. In addition, a standing commission of representatives from the Ministry of Finance, the Central Statistical Administration, and the heads of the accounting departments of several government ministries were assigned to promote the accounting profession throughout the Soviet Union. These efforts resulted in a conference of some seven hundred leading academic and practicing accountants in 1975.[21] Despite these efforts, accounting is not a highly respected profession in the Soviet Union. Accountants work factory hours, and their pay and benefits rarely exceed the compensation earned by other laborers. The extensive bureaucratic rules, long hours, low pay, and volume of detailed, unchallenging work have caused most accountants to become what is often characterized as technicians, not problems solvers. The lack of prestige for the profession is reflected in the small number of individuals entering it. An article published by the Planning Commission of the Russian Federation reported in 1979 that only one hundred accountants with advanced technical training were annually taking jobs with enterprises under the jurisdiction of the Ministry of Trade, although approximately four hundred to five hundred were needed.[22] Since the government directs the development and growth of the accounting profession, this problem must be addressed by government action.

Soviet accountants may progress through three professional levels in a given enterprise. The highest level is chief accountant, who is third in command at each enterprise (after the director and the chief engineer). This position is somewhat higher than a controller

[20] Bailey, "Accounting in Russia," 31.
[21] Bailey, "The Accounting Profession in Russia," 72–73.
[22] Maureen H. Berry, "The Accounting Function in Socialist Economies," *International Journal of Accounting* (Fall 1982), 194.

in Western businesses. Subordinates to the chief accountant are bookkeepers and, at lower levels, index-card clerks and calculating machine operators.[23]

GOVERNMENT DIRECTION OF ACCOUNTING

Three principal administrative bodies direct economic development and financial planning in the Soviet Union: (1) the Communist party, (2) the Supreme Soviet, and (3) the Council of Ministers. Collectively, these bodies are responsible for formulating and implementing accounting principles and policies. The most important of these bodies is the Communist party, which is controlled by the Central Committee. The Central Commitee is the primary decision-making body for overall direction of the nation. The next body is the Supreme Soviet, which consists of elected representatives who are responsible for enacting the national laws. In reality, the Supreme Soviet merely approves existing government policy. The daily operations of the government are handled by the third body, the Council of Ministers, which is comprised of representatives from all of the different councils (similar to Cabinet officials in the United States). Although accounting policy is developed and reviewed by the Council, it mainly becomes involved in enterprise accounting when major changes are required.[24]

The primary responsibility for ensuring the orderly operation of accounting systems in the Soviet Union has been given to the Central Statistical Administration (CSA). The CSA develops regulations for the operation of the national system of accounting; it also prepares the standardized accounting forms to be used by all enterprises.[25] Within the CSA, the Ministry of Finance is responsible for guiding the methodological exercise of bookkeeping skills. The Department of Accounting and Statements, under the Ministry of Finance, prescribes the exact accounting and reporting standards to be followed. Furthermore, the Ministry of Finance includes a ministry for each industry. The overall standards to be used by an enterprise within an industry can be modified by the relevant ministry for that industry.[26]

Because of government regulation, accounting principles for the

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[23] John Paraszczak, "Accounting Soviet Style," *Management Accounting* (July 1978), 53.

[24] Derek T. Bailey, "Enterprise Accounting in the USSR," *Accounting and Business Research* (Winter 1973), 45.

[25] K. T. Maunders, "Financial Management in the Soviet Industrial Enterprises," *Accounting and Business Research* (Autumn 1972), 299.

[26] Bailey, "Enterprise Accounting in the USSR," 45.

entire country are centrally dictated and uniformly applied. As previously mentioned, different industries may follow slightly different accounting rules (according to the dictates of the ministry for that industry), but within each industry, all enterprises must explicitly follow the same accounting principles. Thus, accounting in the USSR has become very standardized; the enterprise accountant is given almost no decision-making responsibilities.

Because of this control and standardization, the Soviet economy can be viewed as one giant corporation. The lowest economic unit in the system is the enterprise; it is an administrative unit within the larger Soviet corporation and can be compared to a Western business firm, except that it normally includes only one factory or farm. The enterprise is given the authority to utilize the resources required to perform the economic responsibilities assigned by the central government.[27] Each enterprise has a director and a chief accountant. The director is responsible for the overall operation of the enterprise. For all matters relating to accounting and financial reporting, the chief accountant reports to the next higher supervisory level within its assigned ministry. In nonaccounting matters, the chief accountant reports to the director of the enterprise.[28]

Financial planning follows the same process as the development of accounting policies; approval begins with the Council of Ministers and flows to the individual enterprise. Development of financial plans (or budgets) is an iterative process. Budgets are developed at low levels and then passed to the higher levels of government for approval; if approved, they are referred back to the individual enterprise. Planning proceeds on two levels: the physical production plan and the financial plan. The physical production plan for each enterprise, as dictated by the central government, consists of the planned output in the units of production (tons of steel, bushels of grain, etc.). The physical production budget plan generates a financial plan. Generally, the financial plan is the physical plan restated in monetary units. When the overall plan for the entire nation (or significant industries in the nation) is accepted, the Council of Ministers must approve it. Each enterprise is then responsible for fulfilling its product budgets as determined by the State Planning Commission in cooperation with the enterprise. Both the plan and the planning commission are referred to as the *Gosplan.*[29]

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[27] George Gorelik, "Notes on the Development and Problems of the Soviet Uniform Accounting," *International Journal of Accounting* (Fall 1973), 136.

[28] Bailey, "Enterprise Accounting in the Soviet Union," 45.

[29] Gorelik, "Soviet Accounting, Planning, and Control," 14.

THE ACCOUNTING SYSTEM OF THE SOVIET UNION

The Soviet accounting system consists of a set of standardized accounts defined for the enterprise by the central government in the Gosplan. The standardized accounts are divided into three groupings: synthetic accounts, subaccounts, and analytic accounts. These accounts are described in Soviet accounting terminology respectively as first-, second-, and third-order accounts. At the highest level, the synthetic accounts are subdivided into accounts that detail the economic means, resources, and liabilities (balance sheet accounts) and those that detail the economic processes and the results of operations (income statement accounts) for the period. The synthetic income statement accounts can also be subdivided into three functions: procurement, production, and realization. The synthetic balance sheet accounts can be classified into accounts that record the following for the enterprise: (1) legal property, (2) liabilities, (3) reserves, and (4) capital.

A particular synthetic account can be composed of analytic accounts. For example, the synthetic account No. 60, Current Account with Suppliers and Contractors, contains a series of analytic accounts, one for each contractor and supplier who deals with the enterprise.[30] This structure is similar to the account cards (subsidiary accounts) maintained by many small U. S. businesses for their accounts receivable records. Subaccounts summarize the data from groups of analytic accounts and, in turn, groups of subaccounts are summarized into relevant synthetic accounts. Thus, these subaccounts are control accounts for part of a ledger.

The final account category is the operational account. Such accounts are nonstandardized accounts that provide complementary information to the standardized accounting system. They are used to accumulate detailed information regarding production processes. Being nonstandardized, considerable variations exist in the sophistication and usefulness of operational accounting at different enterprises. Operational accounting systems can vary from simple memoranda records to a well-developed system that interlocks with the standardized accounting system.

The government specifies the synthetic accounts and subaccounts that an enterprise can use; their use cannot be changed without government approval. Requiring this approval presents the enterprise accountants from creating new synthetic accounts and subaccounts. In contrast, enterprise accountants can establish and

[30] Bailey, "Enterprise Accounting in the Soviet Union," 47.

eliminate the operational and analytic accounts as they deem necessary.[31]

Synthetic accounts and subaccounts dictated by the Soviet government compose the standardized accounting system. The following are the requirements of this system:

1. Standardized account plan (part of the Gosplan);
2. Approved systems for recording data and account keeping;
3. Standardized accounting forms;
4. Mandated rules for the evaluation of the assets and obligations of the enterprise;
5. Specified accounting entries for recording certain kinds of transactions;
6. Standardized contents of the accounting reports; and
7. Established schedules for submitting accounting reports to the supervising authorities.[32]

All Soviet entities must follow standardized accounting rules and procedures. Standardization enables the aggregation of data at regional and national levels. Accounting information from one group of industries can be easily added to the information compiled by other industries. This uniformity is an important element in the central planning and control within the Soviet economy.

In addition to standardization, the Soviet accounting system differs from Western systems and practices in several other respects. These differences can be traced to the Soviet practice of incorporating Marxist principles into its accounting policies. As previously mentioned, neither land nor natural resources are included as assets belonging to the enterprise using them. Marx stated that the "means of production" should belong to all of the people, not to any one enterprise.[33] By Western standards, a Soviet balance sheet does not reflect the actual net worth of an enterprise because it does not include land or natural resources.

Examples of some basic journal entries for typical Soviet enterprises are presented in this section. In the following example, the enterprise receives equity of 2,000 rubles in the form of assets and an account at the Gosbank to begin operations. The journal entry to begin operations might be recorded as follows:

Basic means (of production)	1,000
Cash	100

[31] Ibid.

[32] Ibid., 45.

[33] Barker and Chandra, "Accounting Practices in a Socialist Economy," 9.

Materials	500	
Account at the Gosbank	400	
Ustavnii fund		2,000

The basic means includes the fixed assets (equipment and buildings) needed for production. The Ustavnii fund is synonymous with stockholders' equity in Western enterprises.[34]

Soviet practice of capitalizing the expected repairs of assets differs from U. S. principles, which require such repairs to be either capitalized or expensed, depending on their nature, when the repair actually occurs. The Soviet practice, which capitalizes expected repair costs when a fixed asset is acquired, is theoretically sound, although different from U. S. practice, because the need to repair assets accumulates as they are used and wear out. Such expenses do not suddenly occur when the repair is made. The estimated capitalized repairs are then amortized over the useful life of the asset. For instance, if the repair costs of an enterprise asset are estimated to be 500 rubles, the following entry capitalizes the future repairs:

Capital repairs of basic means	500	
Reserve for repairs		500

The capital account for the repairs is amortized over the useful life of the asset (assumed to be ten years in this example) in the following manner:

Amortization expense for repairs	50	
Capital repairs of basic means		50

When the asset is actually repaired (at a cost of 75 rubles), the following entry is made:

Reserve for repairs	75	
Cash (supplies, etc.)		75

Depreciation rates and useful lives for fixed assets are set by the government. The only acceptable depreciation method is the straight-line method. These government-set rates are not sufficient to reflect accurately the true obsolescence of fixed assets. The Soviets generally agree that their overall depreciation charges have been low. The depreciation expense for the asset in this example is recorded as follows:

Depreciation expense basic means (1,000/10)	100	

[34] Paraszczak, "Accounting Soviet Style," 54.

Account at Gosbank		100

As the enterprise depreciates the assets provided by the government, it pays for the asset by giving the government the amount of cash equal to the depreciation.[35]

The enterprise charges any gain or loss on the disposal of fixed assets to the Ustavnii fund account rather than to the results of operations. If the enterprise retires the asset before it is completely depreciated, the following entries are made:

Ustavnii fund	1,025	
Reserve for repairs (500 − 75)	425	
Basic means (original cost)		1,000
Capital repair of basic means (500 − 50)		450

As the enterprise produces goods, the production cost accounts are debited, and the appropriate accounts, such as cash, materials, or Gosbank account, are credited. When the goods pass inspection and are transferred to final inventory, the accumulated production costs for products are transferred to the completed output accounts. Generally, a sale is not formally realized until the payment documents are presented to the Gosbank. Since the government has ordered the manufacture of the goods (through the Gosplan) and the government creates the market for them (including the price), the enterprise can recognize the gain or loss when the goods are manufactured.[36]

Charges similar to taxes are made against the profits of the enterprises. Instead of charging them for the acquisition and use of the means of prodution (land and other natural resources), the Soviet government charges the enterprise an "economic rent." This rent allows the government to collect the benefits of any excessive profits (determined by the government and obtained by the enterprise through exceptional advantages not connected with management performance). Enterprises enjoying greater economic advantages are charged a higher economic rent. Examples of such advantages are artificially high output prices, advantageous location, or exceptionally low prices for inputs.[37]

Another portion of the profits of the enterprise is returned to the state in the form of the turnover tax, which is collected when goods are sold. The rate used for the turnover tax is higher for more profitable enterprises and lower for less profitable enterprises.

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[35] Ibid.
[36] Bailey, "Enterprise Accounting in the USSR," 54.
[37] Maunders, "Financial Management in Soviet Industrial Enterprises," 302.

In 1972, the ratio of turnover tax to net income for all industries in the Soviet Union was approximately 49 percent. The state's total receipts from the turnover tax in 1972 was 149.9 billion rubles, which represented a substantial portion of the state's income.[38] Because the state owns the means of production, as well as the enterprise, the turnover tax and the economic rents charged to the enterprise can be considered a dispersal of the owner's share of income (dividends) rather than simply a corporate sales tax.

At the end of the accounting year, the operational accounts are closed to profit and loss accounts. This is similar to the Western procedures for closing the nominal accounts. The profits (or losses) for the period are transferred to the Ustavnii fund account on the balance sheet. The profitable enterprise can thus increase its fund balance. Although most items are closed to the profit and loss accounts, some items are closed directly to the Ustavnii fund account and are not included in the results of operations. These items include the following: (1) losses from canceled orders; (2) losses from inventory shortages; (3) expenditures for unsuccessful experiments; (4) fines, penalties, and forfeitures; (5) unanticipated losses from production; and (6) losses from subsidiary operations.[39] Item (6) includes services that the enterprise provides for workers, such as operating child care centers and providing employee housing.

The enterprise reports its financial position on the balance sheet and the results of operations on the profit and loss statement. In addition, the enterprise usually makes the following disclosures through footnotes to the financial statements: (1) changes in the Ustavnii fund; (2) kindergartens and children's homes operated by the enterprise; (3) assignment and use of incentive funds; (4) statements of cost of production, overhead amounts, and production output; (5) movement of fixed assets; (6) use of buildings and municipal community property; (7) sales and distribution of costs; (8) number of employees; and (9) the funds used for employees' wages and salaries.[40] The Soviet Union generally requires greater disclosure for social accounting matters than is required in the United States.

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[38] Ula K. Motekat, "Prices in a Planned Economy," *Woman CPA* (October 1981), 27.

[39] C. E. Chastain, "Soviet Accounting Lags behind the Needs of Enterprise Management," *Management International Review*, vol. 7, no. 22 (1982), 16.

[40] Paraszczak, "Accounting Soviet Style," 52.

AUDITING IN THE SOVIET UNION

Auditing, in the Western sense, does not exist in the Soviet Union, although two types of auditors may review the results of operations for the enterprise. The first type, employed directly by the central government, has the primary responsibility to determine whether the organization is meeting the goals specified in the Gosplan (e. g., producing a certain quantity of goods at a certain cost). This type of auditor could, for example, be from the Committee of Soviet Control or a regional officer from the Ministry of Finance. Because determining whether the enterprise meets the production quotas specified in the Gosplan does not require an extensive knowledge of accounting, training as an accountant is not required for this type of auditor. Reviewing the enterprise's financial records to determine compliance with generally accepted (or centrally dictated) accounting principles is not required of the auditor, nor is attesting to the adequacy of the enterprise's financial disclosure.

The second type of auditor works for the enterprise and reports to its chief accountant. In all matters relating to accounting issues, the chief accountant reports to the next higher level, of which the Council of Ministers is the highest level. The chief accountant reports to the director of the enterprise only for nonfinancial matters. Because of this dual hierarchy of command, the accountants with the enterprise are expected to perform an audit function similar to that performed by internal auditors in the United States. As with U. S. internal auditors who usually report to the audit committee of the board of directors (the owner's representatives), the Soviet accountants report to the government, which is the representative of the owners (or people). Review of all of the transactions, reports, and statements of the enterprise by its chief accountant is a very effective means of control.

The Soviet Union has only one bank, the Gosbank. Therefore, most financial transactions must flow through it, and all enterprises must maintain balances in it. If the enterprise experiences financial difficulties, the Gosbank quickly becomes aware of the problem as the cash balance decreases.

Some forms of nonfinancial control are exercised in the Soviet Union that do not involve audits and auditors. Most Soviet managers are members of the Communist party and therefore have a strong allegiance to the party. Controls are exercised in the form of "criticism and self-criticism" at party and company-wide meetings attended by both the organization's workers, managers, and Communist party representatives, who often function as a distinct cell within the enterprise.[41] Thus, the party is able to monitor how well management discharges its stewardship responsibilities and meets the goals of society.

PRICES AND PROFITS

Prices for most items in the Soviet Union are set by the government as part of its management of the national economy. These prices must be approved by the Council of Ministers. Prices for most important industrial goods are set by the responsible central government departments. The prices for some products are locally determined, although price setting is coordinated with the price committee of the Council of Ministers. Prices of products can vary widely among the different geographic areas in the Soviet Union. This reflects the differences in the costs of production of certain items in different parts of the country.

Most enterprises in the Soviet Union are expected to be profitable.[42] *Profits* are defined as the excess of revenues over expenses. Because both the sales price and the costs to manufacture the goods are largely determined by the government, profits for an enterprise can be manipulated by the government. That is, the government sets the prices of products the firm uses as raw materials and the rates for employee wages, depreciation, and other cost allocations, as well as the prices received for the goods produced by the enterprise.

Most wholesale prices are set by the government to equal the average costs to produce the good for the industry as a whole. The prices are adjusted to allow a small profit for the enterprise. This profit markup is intended to provide a "normal" profit for the entire industry.[43] Using average manufacturing costs to determine prices allows industries with more efficient operations and lower production costs to have higher profits and causes some inefficient enterprises to operate at a loss. The government uses the turnover tax rate and economic rent charges to reduce the differences in profitability. Still, one survey of the profitability of 23,000 Soviet firms showed that 11.7 percent operated at a loss, and 17.8 percent had less than a 10 percent return on assets. The remainder had acceptable profit levels.[44]

In some cases, the government manipulates prices by subsidizing

[41] Gorelik, "Soviet Accounting, Planning, and Control," 15.
[42] Motekat, "Prices in a Planned Economy," 32.
[43] Ula K. Motekat, "Prices in a Planned Economy — Part II," *Woman CPA* (January 1982), 26.
[44] Ibid.

certain industries. In a few extreme situations, the government has set the prices for goods transferred from one industry to another so that the price received by the seller is higher than the price paid by the purchaser. The coal and cement industries are beneficiaries of this practice. The differences in price are made up by the state fund through the Central Bank.[45]

Each enterprise is expected to meet or exceed the production plan set in the Gosplan. The enterprise can increase its profits by either producing the goods at a lower cost per unit than the Gosplan specifies or by producing more goods than it specifies. Because a guaranteed market exists for all goods produced and at a price set by the government, enterprises often minimize the raw materials required for the finished product and maximize production of the goods with little regard for quality of the output. In some instances, retail firms are given limited power to adjust their prices downward because of the poor quality and insufficient demand for the product. Naturally, this lowers the profit of the retail firm.[46]

Soviet prices do not respond quickly to changing economic situations. Once they are fixed, they are not adjusted in response to market conditions. From an economic perspective, accounting profits can be used as a measure of the enterprises' performance *only* when the prices used in computing those profits are determined objectively. Because prices are not determined objectively, the Soviet accounting system fails to measure the economic efficiency of an enterprise.[47]

PROBLEMS IN THE SOVIET ACCOUNTING SYSTEMS

The highly standardized accounting system in the Soviet Union hampers management ability to make sound decisions. In the West, dual accounting systems, one for financial reporting and a second complementary cost accounting system for managerial decision making, often exist. Soviet enterprises have only one standardized accounting system, which is tightly managed by the central government. It is not designed to provide the enterprise managers with the type of information needed for decision making. The enterprise accounting system is conditioned to provide average cost data for the central planners. Operational accounts can provide additional information but are rarely sophisticated enough to

[45] Ibid.
[46] Ibid., 31.
[47] Gorelik, "Soviet Accounting, Planning, and Control," 23.

provide much useful managerial accounting information. Incremental cost data are rarely calculated, although they may be relevant for many managerial decisions. Because the standardized accounting system does not provide managerial accounting information, management is unable to respond quickly to changing economic conditions. This hampers development because, as economic conditions change, the accounting systems do not provide relevant economic information.[48]

Problems are also associated with the use of government-determined prices as the basis for accounting information. The accounting profitability of the enterprise may not reflect its true economic efficiency. Prices of the factors of production that are determined by the government form the basis for setting the costs of products, which, in turn, form the basis for calculating the prices for the products manufactured. The logic for this is circular because the prices set by the government for one product are based on the costs of another process, which are also largely determined by the government. Because of the government's role in the price-setting process, prices are not determined objectively.[49]

Having government-established prices and guaranteed markets does not provide enterprise managers with an incentive to produce consistently high-quality goods. Because sales are recognized at the time of manufacture at government-specified prices, the enterprise is production oriented as opposed to market oriented.

Additionally, any gain or loss from the disposal of fixed assets is not reflected in the operating results of the enterprise. Such gains and losses are charged instead directly to the Ustavnii fund account. Therefore, management has little incentive to use the asset in a responsible manner. Management can emphasize short-term production at the expense of long-term viability by the overuse of fixed assets and by then replacing old assets prematurely.

CONCLUSION

The Soviet Union's accounting system is uniquely tailored to meet the peculiar needs of a centralized economy through a highly standardized accounting system. In the United States, the accountants have some discretion as to how to measure and present accounting information. Accountants in the Soviet Union lack this discretionary power. Instead, they merely process the transactions

[48] Gorelik, "Notes on the Development and Problems of Soviet Uniform Accounting," 143.
[49] Gorelik, "Soviet Accounting, Planning, and Control," 23.

of the enterprise over the accounting period and provide the results according to the procedures explicitly delineated by the government.

The use of standardized accounting systems and practices in the Soviet Union can be traced to (1) the poorly developed accounting profession at the time of the Russian Revolution; (2) the habit of the Russian people to follow rules dictated by higher authorities; and (3) the use of standardization as an expedient means of collecting information for central economic planning. Implementation of the standardized accounting system helped the nation move from a feudal to a modern industrialized economy.

The Soviet accounting system is based on Communist economic precepts. Many of the accounting practices commonly found in Western enterprises have been either modified to meet the Soviet Union's needs or are non-existent. In addition, the prices used to measure financial transactions are determined by the government instead of by market conditions. This makes the financial statements of a Russian enterprise unrepresentative of the firm's economic activities from a Western perspective. From a Russian/Communist perspective, however, the statements articulate the activities of the enterprise and aid the government in the central planning and control of the national economy.

Accounting Practices in Developing Countries: Colonialism's Legacy of Inappropriate Technologies

MFANDAIDZA R. HOVE*

For some time, many issues related to the transfer of technology from developed to developing countries have been considered, particularly in the literature regarding the economic development.[1] These issues primarily include the nature of the technology transferred, the process of the transfer, the major effects on the economies of the less developed countries (LDCs), and the resultant dependency of the LDCs on the developed countries.[2] Most, if not all, of such research studies focus, however, on manufacturing and scientific technology. The few that have mentioned the transfer of accounting technology to the LDCs have done so only briefly; their concern tended to be with the topical issue of the harmonization of international accounting practice.[3]

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* Mfandaidza R. Hove is Lecturer and Chairman, Department of Accounting, University of Zimbabwe.

[1] For a list of research studies on technology transfer, see Farock J. Contractor and Tagi Sagafi-nejad, "International Technology Transfer: Major Issues and Policy Responses," *Journal of International Business Studies* (Fall 1981), 113–35.

[2] See, for example, United Nations Conference on Trade and Development (UNCTAD), "Major Issues in the Transfer of Technology to Developing Countries: A Case Study of Chile" (New York: United Nations, 1974); H. W. Wallender "Technology Transfer and Management in the Developing Countries" (Cambridge, Mass.: Ballinger, 1977); J. S. Hill and R. R. Stil, "Cultural Effects of Technology Transfer by Multinational Corporations in Less Developed Countries," *Columbia Journal of World Business* (Summer 1980), 40–51.

[3] These include T. L. Wilkinson, "United States Accounting as Viewed by Accountants of Other Countries," *International Journal of Accounting* (Fall 1965), 3–14; Lee J. Seidler, "Nationalism and International Transfer of Accounting Skills," *International Journal of Accounting* (Fall 1969), 35–45; Gerhard G. Mueller,

This paper discusses the transfer of accounting technology in relation to the following issues:

- The process by which the accounting technology of the developed country was transferred to the LDC (i.e., the channels of transfer)
- The problems created by such methods of technology transfer
- The role of such accounting technology in the economies of LDCs
- The appropriateness (or the lack of it) of existing accounting practice in the LDCs and solutions to the problem.

MECHANISMS FOR THE TRANSFER OF DEVELOPED COUNTRY ACCOUNTING PRACTICE

This paper submits that existing accounting practice in almost all developing countries was imposed by developed countries initially through colonialism and then through the operations of transnational corporations, professional accounting institutes, and the special conditions in economic aid agreements, rather than in response to the societal needs of those countries.

Colonialism

This is perhaps the most effective way by which accounting technologies of developed countries were imposed on LDCs. As Fantl notes, ". . . just as the Roman Legions carried the language and culture of Rome Northward and Westward through Europe, Western capital is carrying its business practices into the third world."[4] Briston supported this view when he argued,

> In a number of countries, of course, the British influence is very long standing, and almost all of the colonial territories in which any substantial degree of industrial development took place under British rule will have had imposed upon them a British Companies Act with the usual reporting and auditing requirements.[5]

In Zimbabwe, and quite possibly in the rest of Anglophone Africa, the British Companies Act of 1948 is the basis of corporate legislation, including financial disclosure requirements. Although the United Kingdom has had several amendments to that act

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"Accounting Principles Generally Accepted in the United States versus Those Generally Accepted Elsewhere," *International Journal of Accounting* (Spring 1968), 91–103; Irving L. Fantl, "The Case against International Uniformity," *Management Accounting* (May 1971), 13–16; and J. M. Samuels and J. C. Oliga, "Accounting Standards in Developing Countries," *International Journal of Accounting* (Fall 1978), 105–20.

[4] Fantl, "International Uniformity," 13–16.

[5] R. J. Briston, "The Evolution of Accounting in Developing Countries," *International Journal of Accounting* (Fall 1978), 105–20.

(including those in 1967, 1876, and 1981), obviously to respond to changing requirements in the corporate environment, the act has largely remained the same in the former colonies. The consequences, particularly in regard to some business practices of transnational corporations in LDCs, can be disastrous.

That accounting technology was not only exported through colonialism, but that it was also imposed on LDCs without any consideration of the needs of these countries should be noted. Wilkinson argues this point.

> The accounting principles of one country have never been "sold" to another country on the basis of convincing arguments in support of those principles . . . accounting principles of one country have moved to another country when two conditions have existed:
>
> 1. the second country had no organized body of accounting principles in the first place, and
> 2. large amounts of capital from the first country were invested in business in the second country, with the consequent ability on the part of those investors to impose their own accounting requirements on the business.[6]

TRANSNATIONAL CORPORATIONS

The opening of new territories enabled international business to establish itself in those areas. Large amounts of capital were invested in enterprises in the "new world" and, naturally, the owners in the developed countries required explanations as to the use to which these funds were put. As Seidler explains:

> . . . the strongest vehicle for the current international dissemination of accounting information is the Multinational Corporation and its associated activities. The vast majority of such enterprises have their most significant ties to the United States or the United Kingdom. The investors in these two countries, where the shares of these corporations are generally traded, have for many decades required audited financial staements, with the result that US– and UK–based independent accountants have developed worldwide practices.[7]

The transnational corporation has been the main channel of transfer of accounting and other types of technology, and this has in many ways benefited the LDCs; the fact this transfer was made to serve the interests of international business has not necessarily benefited the developing countries. No attempt was made to ascertain the information requirements of governments in LDCs

[6] Wilkinson, "United States Accounting," 3–14.
[7] Seidler, "Nationalism and the International Transfer of Accounting Skills," 35–45.

for the operation of enterprises in their economies in general, and the operations of the transferring transnational corporations in particular. The motives of the transnational corporations were — and one could argue with some justification that they still are — to expand the frontiers of international business with the hope of maximizing the wealth of shareholders in the developed country. The literature on the harmonization of accounting notes that the international business community sees harmonization as a means to facilitate international trade and business, especially in the areas of capital flows[8] and reliability of information as a basis for foreign investment decision making.[9]

This does not imply that LDCs have not or will not benefit from increased international trade; the point is that if harmonization of accounting practice is to be achieved in the same way that accounting technology was transferred (i.e., no consideration for the needs of the LDCs), perhaps these countries should not participate in any harmonization arrangements. Stated differently, if harmonization efforts are not based on an explicit acceptance that the accounting needs of developing nations differ vastly from the services required of accountancy in advanced economies, accounting policy makers in LDCs must reject these efforts. As transnational corporations established subsidiaries in the LDCs, their accounting and auditing firms in the home countries also established offices in the developing countries. These firms not only practiced accounting and auditing in accordance with practices in the developed countries, but they also trained local people in those practices and, in certain cases, sent local people to the home country for training. Seidler summarizes the role of professional accounting firms in imposing the developed country's accounting technology.

> Slowly, but increasingly, the international offices of international firms have found a market for "American Style" accounting services with local businesses. Some of this local practice development has been a result of the semicoercive efforts of international development organizations such as the World Bank, which typically require local loan applicants to provide American-style audited financial statements.[10]

Perera attempted to explain the complex link between the various channels used to transfer accounting technology.

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[8] Shawki M. Farag, "The Problem of Performance Evaluation in International Accounting," *International Journal of Accounting* (Fall 1974), 45–53.

[9] Belverd E. Needles, Jr., "Implementing a Framework for the International Transfer of Accounting Technology," *International Journal of Accounting* (Fall 1976), 44–62.

[10] Seidler, "Nationalism and the International Transfer of Accounting Skills," 35–45.

The entire accounting education and training in Sri Lanka is based on the British system. For example, the whole gamut of business activity was directed towards the plantation sector which was introduced to the economy by the British. Initially almost all the joint stock companies were owned by British investors and the required personnel for their management, including accountants, came from the UK. Therefore even though these firms were actually located in Sri Lanka, they were managed as if they were in Britain, and no attempt was made to develop an accounting system suitable for local conditions.[11]

Whether the links between all the transferring channels (colonialism, transnational corporations, professional accountancy institutes, and economic aid) can be adequately explained is perhaps not important; the significance must surely be that each of these channels assisted the transfer and, therefore, complemented one another in that process.

PROFESSIONAL ACCOUNTANCY INSTITUTES

In most, if not all, Anglophone developing countries, the following British accountancy bodies that are members of the Consultative Committee of Accountancy Bodies (CCAB) are represented in one form or another: the Institute of Chartered Accountants in England and Wales, the Institute of Chartered Accountants in Scotland, the Institute of Chartered Accountants in Northern Ireland, the Chartered Association of Certified Accountants, the Institute of Cost and Management Accountants, and the Chartered Institute of Public Finance and Accountancy. In this writer's own country, Zimbabwe, all of the bodies are represented, although the Institute of Cost and Management Accountants and the Chartered Association have only branches.

As colonialism expanded and facilitated the establishment of transnational corporation subsidiaries in the LDCs, a need developed for the necessary organizational infrastructure; accounting was one of several invaluable links required. Accordingly, British accountants immigrated to the colonies and formed the nucleus of the establishment of these bodies in the LDCs. Exhibit 1, which is based on the work of Johnson and Caygill,[12] reports the growth in membership of British professional accountancy bodies throughout the empire and the commonwealth. These immigrant members subsequently formed the local branches indicated in Exhibit 2;

[11] H. B. Perera, "Accounting and Its Environment in Sri Lanka," *Abacus* (June 1975), 86–96.
[12] T. J. Johnson and M. Caygill, "The Development of Accountancy Links in the Commonwealth," *Accounting & Business Research* (Spring 1971), 155–73.

Exhibit 1. Empire, Commonwealth, and Total Membership of British Professional Accountancy Bodies 1900, 1920, 1930, 1960

	Regional distribution				Membership 1	Membership 2	
	Africa	Asia	Australia	Others	Empire and commonwealth	Total	1 as % of 2
1900s							
ICA Scot (1900)	11	6	5	3	25	710	4
ICAEW (1902)	19	25	14	5	63	2,813	2
SIAA (1904/5)	176	21	85	5	287	2,047	14
IMTA (1905/6)	2	—	1	—	3	328	1
LAA (ACCA) (1910)	—	17	—	4	21	1,110	2
	208	69	105	17	399	7,008	6
1920s							
ICA Scot (1920)	23	65	11	76	175	1,580	11
ICAEW (1921)	46	134	25	54	259	5,343	5
SIAA (1927)	162	97	93	30	382	4,629	8
IMTA (1920)	6	5	—	10	21	458	5
LAA (ACCA) (1929)	83	41	27	34	185	2,875	6
ICWA (1922)	—	—	—	—	(est) 16	422	4
	320	342	156	204	1,038	15,307	7

Exhibit 1. (cont.)

	Regional distribution				Membership 1	Membership 2	
	Africa	Asia	Aus-tralia	Others	Empire and commonwealth	Total	1 as % of 2
1930s							
ICA Scot (1940)	126	215	27	125	493	4,435	11
ICAEW (1939)	193	323	31	94	641	13,068	5
SIAA (1939)	453	229	39	37	758	7,509	10
IMTA (1938)	2	9	—	1	12	1,466	1
ACCA (1939)	144	139	23	69	375	6,075	6
ICWA (1938)	13	22	7	8	50	1,223	4
AIA (1937)	163	68	3	17	251	1,301	21
	1,094	1,005	130	351	2,580	35,077	7
1960s							
ICA Scot (1968)	266	140	86	378	870	8,006	11
ICAEW (1969)	1,438	617	170	668	2,893	45,500	6
IMTA (1969)	133	5	8	30	176	5,024	3
ACCA (1969)	698	199	113	366	1,376	12,140	11
ICWA (1969)	622	505	106	204	1,437	10,841	13
AIA (1969)	130	288	10	106	534	1,564	34
SCA (1967)	296	157	172	52	677	3,500	19
	3,583	1,911	665	1,804	7,963	86,575	9

ICS Scot — Institute of Chartered Accountants of Scotland
ICAEW — Institute of Chartered Accountants in England and Wales
SIAA — Society of Incorporated Accountants and Auditors
IMTA — Institute of Municipal Treasurers and Accountants
LAA — London Association of Accountants (later Association of Certified and Corporate Accountants, ACCA)
ICWA — Institute of Cost and Works Accountants
AIA — Association of International Accountants
SCA — Society of Commercial Accountants
Source: Johnson and Caygill

Exhibit 2. Year of Establishment of Branches and Affiliated Societies of British Accountancy Bodies

Year	SIAA*	ICA	ACCA	ICWA	IMTA
1886	Victoria				
1894	S. Africa, W				
1902	S. Africa, N				
1903	N. South Wales	S. Africa			
1905	Montreal				
1910		Straits Settlement			
1913			Jo'burg, SA		
1923			India		
1928	S. Africa, E				
1931	Bombay				
1932		India Burma Egypt			
1933	Bengal				
1936		Malay States	Malaya		
1941		N. Borneo			
1948			Kingston, Jamaica Trinidad		
1950			Hong Kong		
1952			Salisbury		
1954	Central Africa, Salisbury			S. Africa	
1955			Cyprus		
1956			Br. Guiana		
1957					N. Rhodesia (Zambia)
1960			Lagos		E. Africa
1961			Bahamas		S. Rhodesia
1967			Toronto Dar-es-Salaam		

Source: Johnson and Caygill.
* See Exhibit 1 for an explanation of abbreviations.

these in turn formed the foundation of autonomous professional bodies. South Africa, Zimbabwe, Nigeria, Ghana, Sri Lanka, and many other former U.K. colonies have a local Institute of Chartered Accountants. Before full autonomy was granted, however, the "mother-country" body remained responsible for administering all of the examinations. Eventually, the branches were allowed to conduct examinations locally, under very strict control; for example, the three Chartered Institutes (England and Wales, Scotland, and Ireland) established an Overseas Accountancy Examinations Advisory Board, which

> . . . required evidence that the body requesting help in running examinations had a proper constitution and by-laws and could provide local organizers and examiners. The local body was asked to provide syllabuses and these were approved by the Board and its British examiners.[13]

Exhibits 3 and 4 indicate the growth in examination centers approved by U.K. bodies.[14]

As previously mentioned, most of these former branches now operate as autonomous bodies; however, British accountancy bodies continue to exert considerable influence in both the general administration of professional bodies in LDCs and in the style of the examining process. Gbenedio notes that in the first six years that it was administered, only eight people passed the Nigerian examinations for the Institute of Chartered Accountants.[15] He

Exhibit 3. The Expansion of Examination Centers Operated by the Society and Association in the Empire and Commonwealth: 1900–35

Year	Center	Year	Center	Year	Center
1900	Melbourne	1920	Hyderabad	1935	Singapore
1905	Johannesburg		Ottawa		Kuala Lumpur
	Transvaal		Br. Columbia		Antigua
1910	Bombay	1925			
1915	Natal		Gwalior		
	Bihar		Gorakhpur		
	Calcutta		Tanganyika		
	Madras	1930	Nairobi		
	Lahore		Simla		
	Jamaica		Gibraltar		
	British		Nyasaland		
	Guiana		Selangor		
1920	Accra		Bulawayo		
	Lagos		Salisbury		
	Hong Kong		Trinidad		
	Queensland				
	Colombo				

Source: Johnson and Caygill.

[13] Ibid.
[14] Ibid.
[15] P. O. Gbenedio, "The Challenge to the Accounting Profession in a Developing Country: The Nigerian Case" (Ph.D. dissertation, University of Cincinnati, August 1977).

Exhibit 4. Commonwealth Accountancy Examination Centers for British Qualifications, 1969

	Number of centers				
	ACCA	Association of International Accountants	ICWA	IMTA	Society of Commercial Accountants
Africa					
S. Africa & Rhodesia	3	2	12	—	—
Other	25	19	14	4	12
Asia					
India	—	2	5	—	1
Other	19	11	11	—	7
Australia	—	1	6	—	1
Europe & Near East	3	2	3	—	2
W. Hemisphere					
Canada	2	2	4	—	1
Other	14	6	4	—	2
Total	80	45	59	4	26

Source: Johnson and Caygill

stated his belief that the high failure rate was due to the fact that the content of the examination relied heavily on its British counterpart, which presupposed comparable instruction. Whether or not such continued influence by British accounting bodies on organizations in LDCs is in the interests of these organizations will be discussed in a subsequent section. One of the major aims of those who argue for the perpetuation of this influence may well be the establishment of a commonwealth association of accountants which may, in turn, perpetuate the use of British accounting practices in the LDCs. As Johnson and Caygill observe:

> One of the dangers of these commonwealth organizations is that they will lead to attempts to establish standards and procedures which are essentially derived from British experience and have little relevance for developing countries. The genuine belief that "high standards" are the greatest need should not, as is sometimes the case, be confused with a view that uniform standards are necessary throughout the commonwealth.[16]

THE ROLE OF ECONOMIC AID

The economic aid given to LDCs by international development organizations, such as the World Bank and the International Monetary Fund (IMF), perhaps best illustrates how accounting practices in developed countries have been imposed on the Third World. The funds utilized for aid by these organizations are the private-sector funds of investors in developed countries. As a result, two important considerations apply to the manner in which these funds will be managed: (1) the accountability and stewardship concepts as understood during the emergence of the joint stock company apply because managers of the World Bank and the IMF must account for the use of the funds to the owners (investors in the developed country), and (2) these managers will seek to maximize shareholders' wealth. To comply with the accountability and stewardship concepts, managers must prepare periodic financial statements that are useful to their users (in this case, primarily the investors in the developed country); many factors determine what is "useful" in this context. One critical factor is the need for such financial statements to be prepared according to the generally accepted accounting practices of the developed countries. Indeed, as noted previously, Seidler sees this as the ". . . semicoercive efforts . . . which typically require local loan applicants to provide

[16] Johnson and Caygill, "The Development of Accountancy Links," 155–73.

American-style audited financial statements."[17] The author sees no justification for describing this and other conditions as the basis for granting a loan as "semicoercive"; these conditions are in fact coercive and a definite channel for the imposition of the accounting practices of developed countries on LDCs.

Although the expectation of investors in the developed countries that the financial statements related to their investments be in a familiar language is not unreasonable, the value of such financial statements to authorities in the developing country in appraising the benefit of such aid to economic development is questionable. Developing countries may well be wise to insist on additional disclosure if this would improve the usefulness and relevance of the statements. Such methods of reporting have been recommended in some official pronouncements,[18] which, however, failed to receive widespread support.[19]

EXISTING ACCOUNTING PRACTICE IN LDCs

It is vitally important that those concerned with accounting practice not assume that what might be good accounting for the developed countries "will automatically be economically relevant and good for the emerging nations and the process of development."[20] Accounting is fundamentally a social institution; it provides both a basis of measurement and a method of controlling activities within an enterprise. As a result, " . . . in each country accounting should develop in a manner relevant to the society in which it exists."[21] It must respond to the ever-changing needs of society and must reflect the social, political, legal, and economic conditions within which it operates. "Its meaningfulness depends upon its ability to mirror these conditions."[22] Although these points should not be difficult to understand and accept, they have not been implemented. Accounting practices in LDCs have largely remained those of the developed countries which imposed them initially. No

[17] Seidler, "Nationalism and the International Transfer of Accounting Skills," 35–45.

[18] See, for example, the recommendations of the Accountants International Study Group in Its International Financial Reporting Study Number 11 (Toronto, Canada: AISG, 1975).

[19] See criticisms of these recommendations by Frederick D. S. Choi, "Primary-Secondary Reporting: A Cross-Cultural Analysis," *International Journal of Accounting* (Fall 1980), 83–104.

[20] Adolf J. H. Enthoven, *Accountancy and Economic Development Policy* (Amsterdam: North Holland, 1973).

[21] Michael N. Chetkovich, "An Appeal for Unity in Establishing Financial Accounting Standards," *International Journal of Accounting* (Fall 1972), 99–107.

[22] Mueller, "Accounting Principles," 91–103.

evidence of any meaningful adaptation of practices in developed countries exists to suit local conditions, despite claims by some researchers.[23]

In Zimbabwe, the Companies Act is still based on the British Act of 1948, and the profession applies all international accounting standards (IAS) without modification. Similar practices have been adopted by other countries in the region.[24] It is important to recognize that IAS are issued by the International Accounting Standards Committee (IASC), a body created by developed countries. The extent to which developing countries with professional bodies that are members of the IASC are willing and able to ensure that local conditions are considered before they accept an international standard is not clear.[25] Such a situation is unlikely to prevail, as Samuels and Oliga argue:

> The International Accounting Standards Committee is a political body; its standards are those appropriate for industrial countries with a large private sector and a well-developed capital market. The main users of accounting reports in such countries are the shareholders, analysts, bankers and other businesses. Accounting reporting practices and standards are quite rightly designed to provide these users with the information they require.[26]

To the extent that no sophisticated capital markets exist in LDCs and that both local and national governments tend to be larger than the private sector, it is unlikely that these groups would also be the main users of financial statements in LDCs. The accounting problems in LDCs, therefore, include those related to the fact that accounting practice was imposed on them with no concern for their needs, as well as those that emanate from the fact that the developed countries themselves have still not properly defined the

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[23] See, for example, claims regarding the state of accounting in Singapore by Roger Y. W. Tang and Esther Tse, "Accounting Technology Transfer to Less Developed Countries and the Singapore Experience," *Columbia Journal of World Business* (Summer 1986), 85–95.

[24] The writer is familiar with practices in Botswana, Lesotho, Swaziland, Malawi, and Zambia. In the case of Zambia, the writer has acted as External Examiner for the University of Zambia at Ndola for two years.

[25] In the case of Zimbabwe, the Institute of Chartered Accountants of Zimbabwe is a member of the International Accounting Standards Committee. The writer is in touch with this body, as well as with some of its committees, including the Accounting Practices and Education Committees, in his capacity as chairman of the Department of Accountancy at the University of Zimbabwe. The writer is not aware of any changes made to any of the international accounting standards — all of which have been adopted — other than those of cosmetic nature that relate to differences in terminology used.

[26] Samuels and Oliga, "Accounting Standards in Developing Countries," 69–88.

objectives of accounting. Thus, a technology has not only been arbitrarily imposed, but the imposed technology is inappropriate. The consequences for LDCs are serious.

Some Effects of the Imposition of Accounting Technology on LDCs

As with any other method developed by people to assist their efforts to make their environment a better place, accounting should develop in response to the needs of particular environments; accounting has not evolved in the industrialized world as an absolute science, however, but as a response to the economic and social factors prevailing in those parts of the world. This is the form of accounting that was imposed on LDCs. Information produced on the basis of such practice is not likely to give the correct signals to the governments of LDCs, nor is it likely to be relevant for their decision models or to the overall problem of economic development. How can it be when it was developed in accordance with the environmental needs of a diffeent part of the world, as well as a society with different socioeconomic needs? If such differences are not recognized and accommodated in any development efforts, " . . . there is a serious danger that accountants will continue to propound techniques which evolved under circumstances which no longer exist and which are irrelevant or even positively harmful."[27]

One such possible negative result of the continued imposition of inappropriate accounting practices of developed countries on LDCs is the inability of such practices to disclose information related to some of the potentially harmful practices of transnational corporations operating in LDCs. These unacceptable practices include transfer pricing techniques and technology transfer practices. Accounting, as presently practiced in the LDCs, is incapable of disclosing information that may enable the governments of LDCs to detect the use of unfair transfer pricing techniques, especially for taxation purposes.[28] Those who own the transnational corporations and export them to the Third World cannot realist-

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[27] Briston, "The Evolution of Accounting in Developing Countries," 105–20.

[28] Between February 1984 and April 1986, the writer served as a member of a Commission of Inquiry into Taxation appointed by the President of the Republic of Zimbabwe on the recommendation of the prime minister, chaired by Professor R. J. Chelliah, an internationally known taxation expert then director of the Indian Institute of Public Finance. In giving his evidence before the Commission and in response to a question by the writer concerning mechanisms available to the Department Tax to detect any unfair transfer pricing practices of transnational corporations, the Commissioner of Tax said that it was impossible for his department to detect this given current reporting practices.

ically be expected to develop accounting practices to detect practices which are harmful to host LDC nations, although they are consistent with the global objective of maximization of profits. The developing countries themselves must ensure that their accounting practices mirror their societal needs.

Other areas that are of special interest to LDCs and that are not disclosed under current accounting practice include the effects of the activities of enterprises, particularly of transnational corporations, on environmental protection (e.g., water and air pollution), employment generation, and the effects of some of the products of the transnational corporations on the well-being of society; examples of the latter include the dangers inherent in using powdered infant formula in bottles. This practice is inappropriate technology in LDCs in view of the paucity of hygienic facilities essential for proper sterilization of the bottles used with the formula. Value-added reports suggested by the Corporate Report[29] may, as has been argued,[30] contain information more useful to LDC governments than the current information being published. These views are also well supported by the efforts of the United Nations[31] in attempting to solve the problem of the inadequacy of the disclosure practices of transnational corporations. It is very disturbing, however, that the United Nations Commission on Transnational Corporations is considering the international standardization of corporate reporting.[32] Although this paper does not present the arguments for and against the international standardization of corporate reporting, it must, however, note that any efforts to standardize corporate reporting are likely to fail because they cannot possibly consider all of the different social, political, legal, and economic environments (and therefore the reporting needs) of all countries.

The inability of existing accounting practice in the LDCs to report vital information, particularly on the activities of transnational corporations, is not the only detrimental effect of the imposed

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[29] *The Corporate Report* (London: Accounting Standards Committee, 1975).

[30] See, for example, Dhia D. AlHashim, "International Dimensions in Accounting and Implications for Developing Nations," *Management International Review*, vol. 22 (1982).

[31] United Nations Economic and Social Council, *Some Aspects of Corporate Accounting and Reporting of Special Interest to Developing Countries* (New York: United Nations, 1976); and *International Standards of Accounting and Reporting for Transnational Corporations* (New York: United Nations, 1977).

[32] United Nations Commission on Transnational Corporation, *Towards International Standardization of Corporate Accounting and Reporting* (New York: United Nations, 1982).

technology. Other affected areas include, inter alia, the accounting education and training procedures currently followed by LDCs, and the extent to which such procedures help to perpetuate the continued use of such inappropriate accounting technologies.

ACCOUNTING EDUCATION AND TRAINING POLICIES OF LDCs

This paper argued earlier that the role of British professional accountancy institutes in imposing their accounting practices on LDCs is significant. That same influence was exerted on accounting education and training methods in LDCs. The result, as we see today, is overemphasis on the technical aspects of accounting to an extent that almost always produces technicians incapable of understanding the debiting and crediting procedures, whether a better way exists, what the purpose of accounting is for their societies, and whether this purpose is being accomplished. Perera describes LDC accounting training policies as follows:

> . . . the approach to accounting has always been one that emphasizes the technical or mechanical aspects of accounting. Practically trained accountants tend to eliminate from serious consideration all abstracts and abstruse concepts of accounting possible because such complexities are not well received or understood by them[33]

The source of such training policies was clearly the United Kingdom, as Scott observes: "British accounting emphasizes practical aspects of accounting, as is especially evident in the requirement of extensive on-the-job training and lengthy, part-time self-study programs for public accounting asperants.[34] No doubt, considerable changes in training methods have occurred since Scott's article was published, because institutes in the United Kingdom now prefer graduates as articulated clerks; this practice shortens the period of training from five to three years. The point, however, remains valid, especially in regard to the influence of British professional firms on the education and training methods adopted by LDCs. In his pioneering article, Scott suggests that an interdisciplinary approach to the education and training of accountants may be better for LDCs; he described this "liberal" approach as follows:

> The link between a liberal education for accountants and their ability to adapt accounting to a changing environment suggests the possibility

[33] M. H. B. Perera, "Accounting and Its Environment in Sri Lanka," *Abacus* (June 1975), 86–96.

[34] George M. Scott, "Price Enterprise Accounting in Developing Nations," *International Journal of Accounting* (Fall 1968), 52–65.

that the most important requirements of the accounting of developing nations may not be to acquire more technical expertise in accounting. Perhaps more important is the education of accountants to be amendable to changing environments.[35]

Gbenedio comments on the extent to which British training methods have been adopted by most LDCs in his discussion of the Nigerian Institute of Chartered Accountants.[36] More examples are undoubtedly available, including the situation in Zimbabwe.[37] A matter that has further aggravated this situation is the existence of a multiplicity of professional accountancy bodies in LDCs. The observations of Johnson and Caygill concerning the imposition by all of the major British professional accountancy institutes of U.K. accounting practices on LDCs were mentioned earlier.[38] A fragmented profession can only make the task of solving Third World accounting problems more difficult. Levievre and Levievre argue that "... Cooperation among the groups [various professional institutes] is imperative since a young and developing nation can ill afford the folly of a divided accounting profession."[39] As is the case in the United Kingdom where efforts to integrate the British profession have tended to be "vetoed" by members of the ICAEW, in some developing nations,[40] the same groups have maintained a similar professional intransigence and extreme levels of parochialism regarding some LDCs.

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[35] Ibid.

[36] Gbenedio, "The Challenge to the Accounting Profession."

[37] In Zimbabwe, entry into the profession is mainly on the basis of a Bachelor of Accounting qualification offered by the Department of Accountancy at the University of Zimbabwe. On graduation, holders of this degree need serve only three years of articles with a firm of chartered accountants and have only one professional section of the Institute's examinations (i.e., the Final Qualifying Examination) to take. This means that the Bachelor of Accountancy degree program must be structured in a manner to fit the Institute's program; indeed, this has been the case since the degree was first offered in the early seventies.

This means that the more technical aspects of accounting have been emphasized almost to the total exclusion of the more intellectual aspects of the subject. The structure has always stressed the traditional auditing and financial reporting aspects of accounting. Beginning with the academic year in March 1986, however, the writer has been instrumental in introducing major structural changes to the program. These changes move from the traditional approach and emphasize the importance of adopting an interdisciplinary approach and of introducing more courses in management accounting (a vital course for LDCs), public-sector accountancy, and general management.

[38] Johnson and Caygill, "The Development of Accountancy Links," 155–73.

[39] T. Levievre and C. Levievre, "Accounting in the Third World," *Journal of Accountancy* (January 1978), 72–75.

[40] In Zimbabwe, for the least three years, the writer, in the capacity as chairman of the Zimbabwe branch of the Chartered Association of Certified Accountants,

POSSIBLE SOLUTIONS TO THE PROBLEM

The nature and extent of the problems discussed here indicate the need for action by LDCs. Such action must begin with a complete overhaul of the accounting profession in these countries. The precise action must be determined by the particular circumstances of the specific country concerning the level to which the profession has been developed; in some countries, no organized professional accountancy institute may exist.

In Zimbabwe, which has an organized profession represented by more than one professional accountancy body, immediate steps toward integration must be taken. A fragmented profession will achieve nothing unless it takes action that is guided by national interest. Talks on integration should focus on how this integration can best be achieved. Should one or two professional institutes continue to be intransigent and fail to recognize the issues, the government must, as the custodian of the national interest, intervene. Governments in the LDCs cannot continue to assume that because economic actions are taken to speed economic development, accounting development will somehow automatically follow. Indeed, it has been argued that "formal assessment of the role of accounting in the developing country does not exist despite its importance in the evaluation of aggregate economic performance, development programming, private enterprise development and the establishment of capital market."[41] One explanation for this situation could be the extent to which the British belief in the need for the profession to regulate itself has affected accountants and governments in the LDCs.

Involvement of the governments in LDCs is crucial in those nations where the profession has not yet been formally organized. The governments must take the initiative and assist financially in establishing an indigenous professional accountancy institute.

After ensuring that an organized accountancy body (achieved either by the integration of various institutes or the establishment of a new body) exists, the next step must be to determine what the accounting objectives in the individual LDCs should be. Unlike other suggestions,[42] this author recommends that the accounting

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pioneered and participated in discussions with all of the other professional accountancy bodies with a view to integrating the profession. Members of the Institute of Chartered Accountants of Zimbabwe, as in the United Kingdom, voted against integration.

[41] Needles, "International Transfer of Accounting Technology," 44–62.

[42] See, for example, Financial Accounting Standards Board, *Statement of Financial Accounting Concepts No. 1*, "Objectives of Financial Reporting by Business Enterprises" (Stamford, Conn.: FASB, 1978).

objectives of *each* developing nation, not those of *all* developing nations, should be determined. In addition, these objectives should not be determined by the International Accounting Standards Committee, the American Accounting Association, or the United Nations, for example; they should be determined by the natives of those developing countries on the basis of the legal, economic, and social conditions there in accordance with the understanding within each country of the basic economic facts underlying business transactions. The usual problems inherent in the process of determining objectives for any organization, not least of which is the significant influence of value judgments, will undoubtedly apply, but at least these are not cross-cultural value judgments. The determination of accounting objectives should lead, among other aspects, to the specification of enterprise information requirements that are consistent with the development needs of the LDC. This is likely to increase disclosure requirements, particularly for transnational corporations.

With respect to the education and training of accountants, broad-based degree programs with the objective to produce "thinking" people rather than "number crunchers" are needed. In addition, steps should be taken to develop lower level accounting programs (technician level courses); these are not only in great demand in most LDCs due to the small size of most enterprises there, but are also relatively inexpensive to administer. In Zimbabwe, accounting technicians trained by the Zimbabwe Association of Accounting Technicians are filling critical positions in both the private and public sectors of the economy.

CONCLUSION

This paper has argued that an examination of the sources of existing accounting systems in developing countries reveals that those systems were primarily imposed by powerful foreign investors or extended from the home to the host countries through the influence of transnational corporations, foreign aid, and professional accountancy institutes of developed countries. Accounting information produced on the basis of such systems is not relevant and useful for the decision models of governments of LDCs. In some cases, such as the system's failure to report some practices of transnational corporations, the consequences can be disastrous. The accounting education and training policies of LDCs have also been based on those of developed countries which, in the case of Anglophone developing nations, have remained largely technique oriented. Those who advocate the standardization of accounting practice internationally will not solve the problem; only the nationals of the LDCs themselves can and should find ways to correct the situation. Developed countries can, however, assist in providing consultancy services and financial assistance for whatever accounting research projects must be conducted as part of the process of adapting existing accounting practice to suit the needs of developing countries.

The Pattern of the Theoretical Basis of IAS: Accounting Theory Models at the International Level

ANTHONY MOUNG-YIN CHAN*

Since 1973 when the International Accounting Standards Committee (IASC) was first established, its work has been assessed by writers from many different perpsectives. Some believed that the major problem facing the IASC was the acceptance of international accounting standards (IAS) in different nations, and others expressed the view that the more fundamental problem impeding the success of IASC was the lack of a theoretical basis for its standards. This paper examines the theoretical basis of IAS by using three accounting theory models: the Procedures-oriented model (Po M), the Substance-oriented model (So M), and the Needs-oriented model (No M). The author suggests that there is no consistent application of any theory model in the formation of IAS because of the complexity of the international environment and the dominance of the political factor. In agreement with other writers, the paper concludes that a theoretical basis could be a significant factor for real progress in the international harmonization of accounting standards.

Because the field of international accounting developed to quite an advanced level in several research dimensions (international harmonization of accounting standards, technical issues on international auditing and reporting, control in multinational enterprises, and investigation of accounting development from cultural

* Anthony Moung-yin Chan is Assistant Lecturer, Department of Accounting and Finance, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong.

perspectives), this paper also attempts to explore a possible study area of the interdisciplinary link between international accounting and accounting theory.

Despite reliance on different sources of statistical data,[1] many writers share the view of Arpan and Radebaugh that the business world has moved into a multinational era.[2] Thus, international accounting becomes more and more a necessary language[3] to serve the new dimensions of business communication.[4] In particular, the subarea of the international harmonization of accounting standards has been a special concern of accounting academics and practitioners. The effort to pursue an international harmonization of accounting standards was believed to be worthwhile because it offered many advantages:

> The greatest benefit to flow from harmonization would be comparability of international financial information. . . . A second advantage of harmonization would be the significant reduction of the time and cost of having to consolidate divergent financial information where more than one set of reports is required to comply with different national laws or practice . . . . A third improvement from harmonization would be the tendency for accounting standards throughout the world to be raised to the highest possible level consistent with local economic, legal and social conditions.[5]

The establishment of the International Accounting Standards Committee in 1973 was undoubtedly a milestone of this type of effort.

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[1] Two major examples of the explosive growth of international business over the past decades are the expansion of the international product markets and the increasing importance of the international capital markets. According to the International Monetary Fund, *International Financial Statistics* (July 1978), 30, and (August 1983), 54, there is an increasing volume of world international trade from $772 billion in 1974 to $1695 billion in 1982. Concerning the expansion of the international capital markets, Ogden notes: "On the eve of the first oil price shock in 1973, the total foreign debt — public and private, long-term and short-term — of non-OPEC developing countries was slightly less than $100 billion. By the end of 1982, this total had grown to roughly $530 billion." See William S. Ogden, "A Banker's View of the Foreign Debt Issue," *Wall Street Journal* (8 November 1982), 22.

[2] See Jeffrey S. Arpan and Lee H. Radebaugh, "The Evolution of International Business," *International Accounting and Multinational Enterprises* (Boston: Warren, Gorham, and Lamont, 1981), 6–9.

[3] In his paper, "The Development of International Accounting Standards: An Anthropoligical Perspective," William J. Violet, like other writers, identifies accounting as language. See *International Journal of Accounting* (Spring 1983), 6.

[4] In their book, Jeffrey S. Arpan and Dhia D. AlHashim linked the growth of international business and the necessity of increasing attention paid to accounting problems with international nature. See *International Dimensions of Accounting* (Boston: Kent Publishing, 1984), 1.

[5] John N. Turner, "The Need for International Harmony in Accounting Standards," *CA Magazine* (January 1983), 40–41.

THE IASC AND ITS OBJECTIVES

Collectively proposed by leading professional accounting bodies in nine nations,[6] the IASC was founded in 1973 as a part of the International Commission for the Co-ordination of the Accounting Profession (ICCAP) with two basic objectives:

(i) to formulate and publish in the public interest accounting standards to be observed in the presentation of financial statements and
(ii) to promote their [the standards'] worldwide acceptance and observance.[7]

In principle, the IASC is a part of ICCAP or the International Federation of Accountants (IFAC), which replaced ICCAP after the Eleventh International Accounting Congress in 1977. IASC has been granted the freedom to work on its own objectives since its establishment.[8] By 1985, IASC had sixty accounting bodies from forty-seven countries as members.[9] Because of its autonomy and its potential enforcement powers (which can be enforced whenever its full members observe the decisions of the Committee), IASC is distinguished from other international accounting groups[10] as the best potential body to promote the international harmonization of accounting standards. By July 1984, IASC had issued twenty-four international accounting standards.

PREVIOUS STUDIES RELATED TO IAS

The first IAS was issued in 1975. Researchers have attempted to measure the success of IASC in terms of achieving its own two objectives. A review of such studies indicates that researchers have

[6] According to the "Preface to IAS," the nine nations are Australia, Canada, France, Germany, Japan, Mexico, the Netherlands, the United Kingdom and Ireland, and the United States.

[7] Preface to IAS, par. 2.

[8] Of course, there is still a close relationship between IASC and IFAC. See Michael N. Chetkovich, "The International Federation of Accountants: Its Organization and Goals," *International Journal of Accounting* (Fall 1979), 19; and Robert N. Sempier, "The International Federation of Accountants: Operating Procedures and Current Progress," *International Journal of Accounting* (Fall 1979), 31. In this article, Sempier, the first executive director of IFAC, expressed his concern to maintain the closest relationship between IFAC and IASC, and he even believes that a formal integration of the two organizations is possible.

[9] Thomas G. Evans, Martin E. Taylor, and Oscar Holzmann, *International Accounting and Reporting* (New York: Macmillan, 1985), 89.

[10] In his article, Joseph P. Cummings gave an example of such groups that the Accountants International Study Group had done some persuasive comparative international accounting studies in the past, but their recommendations could not be implemented because the Group lacked any form of enforcement power. See "The International Accounting Standards Committee: Current and Future Developments," *International Journal of Accounting* (Fall 1975), 31–37.

focused on the second objective. More studies investigated the enforcement of the published IAS than assessed the development process of IAS themselves. For example, Chang and Most examined the application of IAS to the European oil and gas industry; they questioned the implementability of IAS because IASC lacked legal power.[11] In addition, McComb investigated the acceptance of IAS by the European Economic Community (EEC). He noted that the differences in the ranking of accounting objectives for corporations became an obstacle for the enforcement of IAS within the EEC.[12]

This research imbalance can be explained in several ways. First, different interpretations may exist as to the basic mission of IASC. If IASC's mission was interpreted as issuance of a quantity of accounting standards (that is, quality standards are desired but not mandatory), IASC's success could be assessed by the number of IAS issued. Under this interpretation, its total of twenty-four IAS will probably satisfy any assessor. Next, researchers shifted their focus to investigate the acceptance of the developed standards. According to the Preface to IAS, however, a more accurate interpretation of IASC's ultimate goal in issuing harmonized accounting standards may be to improve the quality of financial statement presentation.[13]

A second explanation could be that it is impossible to assess the quality of any accounting standard unless a well-defined accounting theory framework exists for the evaluation. The lack of such criteria has discouraged researchers to test the theoretical soundness of IAS. The third reason to motivate research concerns as to the acceptance of IAS was that this matter was also the major concern of IASC. The Preface to IAS[14] explicitly states that the implementation of IAS was feasible only if member organizations (e.g., the American Institute of Certified Public Accountants, the Canadian Institute of Chartered Accountants) supported them voluntarily. Sir Henry Benson, the first chairman of IASC, in his now classic article on IAS, explicitly expressed his concerns of the

[11] Lucia S. Chang and Kenneth S. Most, "IAS: The Case of European Oil Companies," *International Journal of Accounting* (Fall 1976), 27–44.
[12] Desmond McComb, "International Accounting Standards and the EEC Harmonization Program: A Conflict of Disparate Objectives," *International Journal of Accounting* (Spring 1982), 35–48.
[13] The Preface to IAS states, "It is to be expected that the quality of presentation of financial statements will be improved and that there will be an increasing degree of uniformity" (par. 20).
[14] Ibid., par. 17–19.

various difficulties members of IASC have in complying with IAS in their own local environments.[15]

Given that the majority was concerned with the implementation issue of IAS, other writers believed that the fundamental factor determining the success of IAS would be a conceptual issue, not the technical issue of acceptance. The conceptual issue was the need for a theoretical basis to guide the formulation and application of IAS. "It would make sense that we seek to define international accounting objectives before we attempt to define international accounting standards."[16] "Can further progress be made on setting international accounting standards without agreement being reached on the objectives of financial statements?"[17]

Hayes defined "recognition of IAS" as the first problem facing IASC, but he also noted,

> A second problem has been asserted to be a lack of identification of objectives of financial statements, or the broad theoretical underpinnings of accounting. Some critics view the IASC failure to identify and define the worldwide objectives of financial statements as a major failing that impedes progress.[18]

Furthermore, Hauworth identified the "the diversity of views that exist regarding the purpose of financial statements" (a theoretical and subject matter question) as the first problem, but "lack of an agency to enforce worldwide accounting standards" as the last problem in his list of eight factors impeding the development of worldwide accounting standards.[19] In addition, Mueller admitted in 1970 that "relatively little theoretical research of an international accounting nature has been accomplished.[20] His view is still supported in the eighties.

This study attempts to identify the theoretical basis of the IAS. Assuming the comments hold true, no conscious application of accounting theory models in the formation of IAS is probable; is

[15] Sir Henry Benson, "The Story of International Accounting Standards," *Accountancy* (July 1976), 34–39.
[16] Michael N. Chetkovich, "An Appeal for Unity in Establishing Financial Accounting Standards," *International Journal of Accounting* (Fall 1972), 106.
[17] Mason K. Alister, "The Evolution of International Accounting Standards," in *Multinational Accounting: A Research Framework for the Eighties,* ed. Frederick D. S. Choi (Ann Arbor, Mich.: UMI Research Press, 1981), 168.
[18] Donald J. Hayes, "The International Accounting Standards Committee—Recent Developments and Current Problems," *International Journal of Accounting* (Fall 1980), 5.
[19] William P. Hauworth, "Problems in the Development of Worldwide Accounting Standards," *International Journal of Accounting* (Fall 1973), 24.
[20] Gerhard G. Mueller, "Academic Research in International Accounting," *International Journal of Accounting* (Fall 1970), 81.

there, however, an unconscious application? Every IAS has its conceptual arguments. These arguments are more or less related to some accounting theory models. By observing the arguments as well as the results (i.e., standards), the theoretical bases of the twenty-four IAS can be identified. It can then be concluded whether the formulation of IAS follows an unconscious but consistent pattern of theory application or an ad hoc manner. This finding could verify or disprove the comments of the minority group of researchers.

PO, SO, AND NO

Three accounting theory models (reflecting processes of theory development in accounting history) are used to classify the theoretical base of the twenty-four IAS to determine the matching effect for a longitudinal analysis in the classification: Procedures-oriented Model (Po M), Substance-oriented Model (So M), and Needs-oriented Model (No M). These models were organized in response to an unpublished paper by Dewhirst.[21]

In brief, the Procedures-oriented Model accounts for transactions and "deemed" transactions and processes them by recognition, classification, valuation, and recording under the generally accepted accounting principles and procedures, such as matching, realization, going concern, and conservatism for the purpose of period income determination. This model relies heavily on the accepted accounting procedures and also relies on the individual accountant's judgment to select and apply the procedures in specific situations. For these reasons, this model is regarded as procedurally oriented, relying on authority and consensus but lacking a priori research methodology. This Po M can be described as a pre-scientific theory:

> We could probably label the transactions-based methodology of authority as "pre-Newtonian" or, more accurately, pre-scientific. . . . In the pre-scientific era the primary research methodology was mysticism and the chief vertification and theory generating device was authority.[22]

Sterling also shared the similar view: "Probably the most ancient and pervasive method of accounting theory construction is to observe accountants' actions and then rationalize those actions by

[21] John F. Dewhirst, "A Classification and Analysis of Financial Accounting Theory Models" (Faculty of Administrative Studies, York University). The author wishes to express his deep appreciation to Dr. Dewhirst, his former teacher. However, any incompleteness of the model application, inspired by Dr. Dewhirst's unpublished paper, is the responsibility of the author.
[22] Ibid., 58–59.

subsuming them under generalized principles."[23] Nevertheless, the Procedures-oriented Model represents a theory long observed in the early stages of accounting history, and its very basic spirit still affects today's accounting profession.[24]

In contrast to the Procedures-oriented Model, the Substance-oriented Model considers economic phenomena (objects or events have economic impact on accounting entities) as inputs of the theory and processes them based on a conceptual framework derived by deductive methodology to provide economic measurements on both assets/liabilities and period income as outputs of the model. Therefore, unlike the Po M, which devaluates the importance of the balance sheet, this model emphasizes both the balance sheet and income statement to represent the economic situation of the accounting entity.[25]

The Needs-oriented Model is distinguished from the other two models in that it shifts the basic objective of financial accounting from management stewardship's "inward-looking" nature for user decision-making information satisfaction with the new "outward-looking" nature.[26] Furthermore, it is an extension of the substance-oriented model to "supplement a priori research with empirical testing."[27] Within the family of the needs-oriented theory are different versions of specific models. Among these specific models, the events and situational model may be the only one that is not in a very preliminary stage as to reliable uses. Since user needs for general purposes reporting financial statements are so diversified, it is questionable whether data specification can be identified for different user decisions. In addition, the efficient capital market hypothesis, the foundation of another specific needs-oriented model, is still subject to verification in many countries before an accounting model can be based on it. As a result, the author equates the Needs-oriented Model to the events and situational model, a model which intends to improve the relevance quality of accounting

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[23] Robert R. Sterling, "On Theory Construction and Verification," *Accounting Review* (July 1970), 449.

[24] For an in-depth discussion of the historical development of the Procedures-oriented Model in North America, see Ross M. Skinner, *Accounting Principles: A Canadian Viewpoint* (Toronto: Canadian Institute of Chartered Accountants, 1972), 36–40.

[25] Robert T. Sprouse commented that "the concepts of assets and liabilities are more fundamental than the concept of income." See "The Balance Sheet — Embodiment of the Most Fundamental Elements of Accounting Theory," in *Foundations of Accounting Theory*, ed. W. E. Stone (University of Florida Press, 1971), 168.

[26] Dewhirst, "Financial Accounting Theory Models," 66, 67.

[27] Ibid., 70.

information without extreme reliance on incomplete micro or macro user decision theories as the other specific Needs-oriented Models do.

CLASSIFYING IAS BY ACCOUNTING THEORY MODELS

The twenty-four IAS issued by IASC since 1975 are listed in Exhibit 1. These standards include both measurement and disclosure issues.

Because the three accounting theory models used to classify IAS are not mutually exclusive, that an IAS developed according to conceptual arguments drawn from more than one theory model is possible. Consequently, this methodology classifies IAS to identify the model for which the dominant conceptual component to create the IAS is affiliated. This identification includes judgmental observations as to both the arguments and the standard itself. Exhibit 2 presents a summary of the results of the identification of the theoretical base of IAS.

To disclose the pattern of the theoretical basis of IAS along time, Exhibit 3 plots the IAS in a graph with two dimensions of (1) the three accounting models, and (2) the IAS's dates of issue. Because the Procedures-oriented Model is believed to be the oldest and the Needs-oriented Model is the latest innovation of accounting theory, the order of the three models on the vertical axis of the graph is according to their time of articulation.

DISCERNING THE FINDINGS

The data in Exhibit 3 clearly indicate that there is no specific trend to explain the theoretical basis of IAS. Accounting models randomly apply to the twenty-four IAS. This means that accounting theory models at the international level do not develop by following a continuous rational improvement process but rather exist in an ad hoc manner. Two interrelated reasons can be suggested to explain this phenomenon: (1) the complexity of the international environment, and (2) the dominance of the political factor.

The Complexity of the International Environment

The international setting is obviously much more complicated than a national setting. This is especially true in a financial reporting context. According to Gray's conceptual framework, "Accounting standards and multinational enterprises: national and international influences,"[28] international accounting standards operate under

[28] Sidney J. Gray, "International Accounting Standards: Some Observations on Developments in Private and Public Regulation," in *Contemporary Accounting Thought,* ed. M. J. R. Gaffikin (Australia: Prentice-Hall, 1984), 73.

Exhibit 1. The Twenty-four International Accounting Standards Issued

	Title	Date of Issuance
	Preface to IAS	March 1978
IAS 1	Disclosure of Accounting Policies	January 1975
IAS 2	Valuation and Presentation of Inventories in the Context of the Historical Cost System	October 1975
IAS 3	Consolidated Financial Statements	June 1976
IAS 4	Depreciation Accounting	October 1976
IAS 5	Information to Be Disclosed in Financial Statements	October 1976
IAS 6	Accounting Responses to Changing Prices (superseded by IAS 15)	June 1977
IAS 7	Statement of Changes in Financial Position	October 1977
IAS 8	Unusual and Prior Period Items and Changes in Accounting Policies	February 1978
IAS 9	Accounting for Research and Development Activities	July 1978
IAS 10	Contingencies and Events Occurring after the Balance Sheet Date	October 1978
IAS 11	Accounting for Construction Contracts	March 1979
IAS 12	Accounting for Taxes on Income	July 1979
IAS 13	Presentation of Current Assets and Current Liabilities	November 1979
IAS 14	Reporting Financial Information by Segment	August 1981
IAS 15	Information Reflecting the Effects of Changing Prices	November 1981
IAS 16	Accounting for Property, Plant and Equipment	March 1982
IAS 17	Accounting for Leases	September 1982
IAS 18	Revenue Recognition	January 1983
IAS 19	Accounting for Retirement Benefits in the Financial Statements of Employers	January 1983
IAS 20	Accounting for Government Grants and Disclosure of Government Assistance	April 1983
IAS 21	Accounting for the Effects of Changes in Foreign Exchange Rates	July 1983
IAS 22	Accounting for Business Combinations	November 1983
IAS 23	Capitalization of Borrowing Costs	March 1984
IAS 24	Related Party Disclosures	July 1984

Source: IAS Handbook.

some influences not present at a national level, such as the influences of intergovernmental organizations (e.g., the United Nations, the Organization of Economic Cooperation and Development) and

Exhibit 2. Classification of IAS According to Theory Models

A continuum of theoretical positions (T.P.):

Procedures-oriented Model (Po)				Substance-oriented Model (So)				Needs-oriented Model (No)
1	2	3	4	5	6	7	8	9

Standards	Major reasons/Dominant factors	T.P.
IAS 1	(1) "Financial statements give information which is used by a variety of users." (IAS 1.11): general purposes reporting is a characteristic of So. (2) "The users . . . require them as part of the information needed . . . for making evaluations and financial decisions." (IAS 1.12): No.	7
IAS 2	"Inventories should be valued at the lower of historical cost and net realizable value." (IAS 2.20). Allocation of overhead is arbitrary no matter how it is justified, but it is necessary in inventory costing. However, the concept of lower-of-market-and cost is an attempt to reflect economic reality under the concept of conservatism.	3
IAS 3	(1) ". . . consolidation financial statements, which present financial information concerning the group as that of a single enterprise without regard for the legal boundaries of the separate legal entities." (IAS 3.6). Putting economic substance over legal form is a practice of So. Moreover, consolidation emphasizes balance sheet presentation since it reflects the total resources controlled by the group and the flow of those resources within the group. (2) "In order that users of financial statements may obtain a clear understanding of the group's affairs it may be necessary to . . ." (IAS 3.33). The basic purpose of IAS 3 is for user needs.	7
IAS 4	(1) "Depreciation is the allocation of the depreciable amount of an asset over its estimated useful life." (IAS 4.2). Depreciation is defined as an allocation of costs (a Po concept) but not a revaluation of assets (not a So concept). This practice levels period incomes and eliminates the uncontrollable factor (up and down of the asset value) for management evaluation (a current operating performance concept under Po rather than an all-inclusive concept under So). (2) The suggestion to review the useful lives of depreciable assets (IAS 4.16) modifies IAS 4 somewhat from being a pure Po.	2

Exhibit 2. (cont.)

A continuum of theoretical positions (T.P.):

Procedures-oriented Model (Po)				Substance-oriented Model (So)				Needs-oriented Model (No)
1	2	3	4	5	6	7	8	9

Standards	Major reasons/Dominant factors	T.P.
IAS 5	"Financial statements are required, . . . for making evaluations and financial decisions." (IAS 5.2). "All material information should be disclosed that is necessary to make the financial statements clear and understandable." (IAS 5.6). This standard gives a list of specific items disclosed for user needs under the premise of materiality. Materiality is an operational concept of Po, but in substance it is based on user decision frameworks.	9
IAS 6	Superseded by IAS 15.	
IAS 7	More than the "bottom line" concern, the Statement of Changes in Financial Position is in fact a specific piece of information for user decisions on liquidity and solvency evaluation.	9
IAS 8	(1) The all-inclusive concept, which is supported by this standard, is a So concept because it suggests to present all economically significant information no matter how users will use it. (2) On the other hand, a separate disclosure of unusual items is also a kind of No approach.	7
IAS 9	To expense research and development costs is more a conservative procedure than an economic presentation. The exception treatment on development costs if they meet some criteria is a small step toward the So.	2
IAS 10	(1) Disclosure of contingencies under conservatism more or less assumes the importance of this kind of information for user decisions, even though they have not been realized. (2) At the same time, the standard still weighs more on economic events than on anticipated economic events. "Assets and liabilities should not be adjusted for, but disclosure should be made of, those events occurring after the balance sheet date that do not affect the condition of assets or liabilities at the balance sheet date, but are of such importance that non-disclosure would affect the ability of the users of the financial statements to make proper evaluations and decisions." (IAS 10.32).	7

Exhibit 2. (cont.)

A continuum of theoretical positions (T.P.):

Procedures-oriented Model (Po)				Substance-oriented Model (So)				Needs-oriented Model (No)
1	2	3	4	5	6	7	8	9

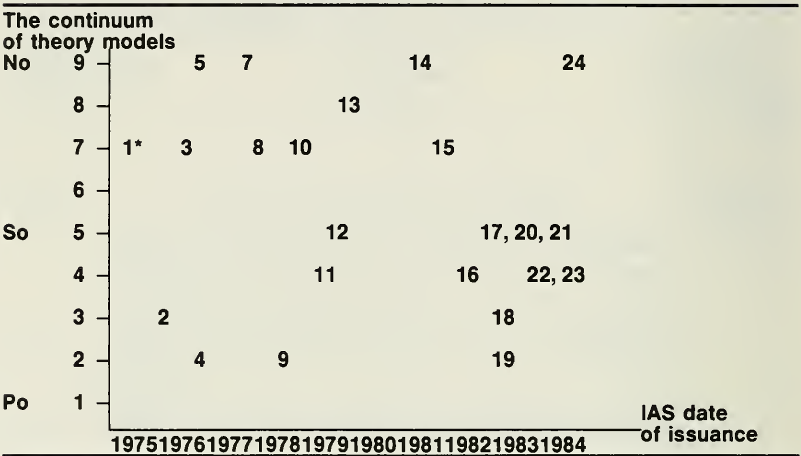
Standards	Major reasons/Dominant factors	T.P.
IAS 11	The standard allows reflecting economic reality on revenue earning within the constraint of objectivity concept, but less concerns the realization concept, which is the backbone of the Po.	4
IAS 12	The standard suggests tax effect accounting and allows liability method which are in fact the suggestions of the So.	5
IAS 13	"Thus, while many believe that the identification of current assets and liabilities is a useful tool in financial analysis, others believe that the limitations of the distinction make it of little use or even misleading in many circumstances." (IAS 13.18). For the compromising reason, the standard allows distinguishing current items from non-current items or not. However, it emphasizes that usefulness for user decisions is the basic consideration to choose an alternative.	8
IAS 14	Segmented reporting is another specification to satisfy user needs on decision making. "Users of financial statements need segment information to assess the prospects and risks of a diversified enterprise which may not be determinable from the aggregated data." (IAS 14.5).	9
IAS 15	The standard specifies information needed better to reflect the economic reality due to changing prices and for the uses of relevant decisions to be made.	7
IAS 16	"The gross carrying amount of an asset included in property, plant and equipment should be either historical cost or a revaluation." (IAS 16.36). The allowance to write up the value of long-term assets is a feature closer to the "value school" (So), although the overall standard is very traditional.	4
IAS 17	The revolution on lease presentation is in fact a practice of "economic substance over legal form."	5
IAS 18	The criteria for revenue recognition proposed by the standard are concepts of both the Po (e.g., emphasis on measurability) and the So (e.g., emphasis on the transfer of risks and rewards of ownership rather than on legal title).	3

Exhibit 2. (cont.)

A continuum of theoretical positions (T.P.):								
Procedures-oriented Model (Po)				Substance-oriented Model (So)				Needs-oriented Model (No)
1	2	3	4	5	6	7	8	9

Standards	Major reasons/Dominant factors	T.P.
IAS 19	Actuarial cost methods are methods to ensure that there is enough fund to cover the defined benefits for employees. So, these methods per se are funding methods. The standard allows using them to determine pension cost. This equates the concept of funding to the concept of costing. Therefore, the standard is closer to a procedural approach than the So. Otherwise, the pension asset, pension liability, etc., should have been recognized.	2
IAS 20	Unlike the pension accounting, this standard recognizes the government grant asset and government grant income to comply with the So.	5
IAS 21	To distinguish between integral operation and self-sustaining operation is an attempt to recognize the economic impact of different situations on the parent company. The recognition of transaction gains or losses is also an economic presentation because those exchange gains or losses will be realized eventually.	5
IAS 22	This standard adopts a substance-oriented viewpoint to favor the purchase method and to suggest the revaluation of goodwill from time to time, although pooling of interest method is still allowed under a condition of "uniting of interests." "When a business combination is deemed to be a uniting of interests the pooling of interests method detailed in paragraphs 46–47 may be used." (IAS 22.38).	4
IAS 23	To allow the capitalization of borrowing, costs can be regarded as a shift from a cash basis to an accrual basis of accounting to describe better the economic situation of the operation. However, this standard is a flexible one; it allows either capitalizing the borrowing costs or not.	4
IAS 24	Like other disclosure standards, IAS 24 assumes the importance of the specific information concerning related party relationship and transactions for user decisions. "In order for a reader of financial statements to form a view about the effects of related party relationships on a reporting enterprise, it is appropriate to disclose the related party relationship where control exists, irrespective of whether these have been transactions between the related parties." (IAS 24.20).	9

Exhibit 3. Graphic Presentation of the Theoretical Basis of IAS



*1 = IAS 1
2 = IAS 2, etc.
Source: Exhibits 1 and 2.

conflicting regulations of different nations. In terms of financial statement users, the list within an international context is longer than the list within a national environment. For instance, international investors are much more concerned with the currency risk than are national investors. In an international environment, multinational corporations (MNCs) have their own formulas to calculate the costs and benefits to comply with IAS. In a relative sense, IASC is a small entity in the international business arena. As a result, there are such varying international dynamics existing that the IASC has already needed to make major efforts to ensure its survival. It is not easy for IASC to insist that a consistent application of accounting theory models govern the formation of IAS.

The Dominiance of the Political Factor

Watts and Zimmerman observe that accounting theories became excuses to serve the interests of political groups[29] (i.e., political factors overrule other factors in the formation of accounting theories, standards, and practices.) Unfortunately, this political explanation seems fairly accurate at the international level to influence the formation process of IAS.

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[29] See Ross L. Watts and Jerold L. Zimmerman, "The Demand for and Supply of Accounting Theories: The Market for Excuses," *Accounting Review* (April 1979), 273–301.

Although IASC has the clear goal to narrow accounting alternatives for specific economic situations, it does allow considerable freedom of choice in controversial accounting areas. For example, the format of the Statement of Changes in Financial Position and even the definition of "fund" are not specified in IAS No. 7. Also, according to IAS No. 8, the adjustments related to prior period items resulting from changes in accounting policies can be presented through the income statement or through the retained earnings account. In IAS No. 12, both the liability and deferral methods are allowed to reflect tax-related timing differences. Alterations in lease classification are possible because the usual criteria to identify capital leases or operating leases are not included in IAS No. 17. One more obvious example is that under IAS No. 23, an MNC's accounting policy makers may choose whether to capitalize the borrowing costs.

Flexible standards please many. In his paper "International Accounting Compromises: The Case of Consolidation Accounting," Walker used IAS No. 3 to illustrate the compromising nature of the IAS. "IASC members appear to have 'agreed to agree.' "[30] "The content of IAS No. 3 seems to have been determined by a process aimed at achieving agreement; theoretical considerations appear to have been afforded little attention."[31]

In fact, IASC itself seems to be taking political actions. As mentioned, IASC retains an important relationship with IFAC. Undoubtedly, IASC's good relationship with other accounting and non-accounting bodies increases its power to gain wider support for its standards. For instance, Evans, Taylor, and Holzmann identified IASC's formation of the Consultative Group with representatives from the World Bank, International Chamber of Commerce, International Confederation of Free Trade Unions, International Association Committee of Financial Executives' Institutes, and International Federation of Stock Exchanges as public relations action.[32] Furthermore, Mason suspects that the reasons for the IASC to prepare two seats on its board for developing countries were to make itself "(a) more acceptable to the UN [United Nations]; and (b) less susceptible to criticisms that the projects it selects are unresponsive to the needs of developing countries."[33]

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[30] R. G. Walker, "International Accounting Compromises: The Case of Consolidation Accounting," *ABACUS* (December 1978), 109.
[31] Ibid.
[32] Evans, Taylor, and Holzmann, *International Accounting and Reporting*, 94.
[33] Alister, "Evolution of International Accounting Standards," 168.

A NORMATIVE CONCLUSION

Evans, Taylor, and Holzmann commented on the relationship between theory and politics in accounting standards formation at the international level:

> The absence of an accounting theory, . . . adds to the problem of harmonizing differences across nations. Without such a theory, national accounting biases are hard to remove. . . . However, the IASC has acted very prudently and politically so far to achieve a measure of support for its international accounting standards. In setting standards, it has tried to find a consensus, compromise, or workable standard so as to achieve maximum worldwide support.[34]

Without a theoretical basis, harmonization is difficult because "national biases are hard to remove." To achieve the harmonization in such a difficult situation, IASC seeks a compromise. These political actions in return further sacrifice the primary hope of a theory in standard development. Because of this, the quality control of the IAS becomes difficult. Uniformity of accounting practices and of the quality of standards are two different things:

> The standards issued by IASC raise a number of questions. The first concerns quality: since standards are based on consensus, it is apparent that sometimes too much rigidity is avoided.[35]
>
> There is considerable evidence that it is correct to regard accounting "history" as a series of disconnected episodes rather than as a coherent development.[36]
>
> History tells the accounting profession that ad hoc pragmatic approach has not been successful in achieving real progress. . . . Supporters of the current system can argue all the faults and problems of theoretically based approach, but history proves its neglect, and the resultant predominance of the pragmatic attitude has not worked.[37]

The IASC has no legal authority and the Committee will be challenged if it attempts to be totally independent. International harmonized accounting standards are believed worth these efforts.

> Our reliance on ad hoc change [of accounting standards] has accelerated at a stage that it should have declined. As the profession matures, it should develop and be guided by a relatively stable frame of reference possessing the characteristics usually ascribed to a theory.[38]

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[34] Evans, Taylor, and Holzmann, *International Accounting and Reporting*, 95.

[35] Dhia D. AlHashim and James W. Robertson, eds. *Accounting for Multinational Enterprises* (Indianapolis: Bobbs-Merrill, 1978), 185.

[36] Roger J. Lister, "Accounting as History," *International Journal of Accounting* (Spring 1983), 68.

[37] G. D. Pound and B. M. Pollard, "Accounting Theory and History — Lessons to Be Learned," *International Journal of Accounting* (Spring 1981), 121.

[38] Reed K. Storey, "Comments by Director of Accounting Research," 114.

A postulate framework for accounting, specifically, international accounting, must be developed to facilitate the development of international accounting standards. Such a structure would provide the necessary flexibility for developing and employing IAS in diverse cultural settings. This framework would also establish and clarify accounting concepts throughout the accounting environment. The profession needs this added clarity. A postulate structure will clarify theoretical positions, and such a step is a necessary precondition to harmonizing international theories and variances.[39]

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[39] William J. Violet, "A Philosophical Perspective on the Development of International Accounting Standards," *International Journal of Accounting* (Fall 1983), 9.

Management Accounting Practices Statement Promulgation: An International Perspective

J. B. SCHIFF*

International "harmonization" of accounting standards has been an objective of international accounting organizations for the last two decades. Historically, harmonization efforts have focused primarily on promulgation of auditing and financial reporting standards through the International Auditing Practices Committee of the International Federation of Accountants (IFAC) and through the International Accounting Standards Committee (IASC). (For the purposes of this article, the term "accounting standards" applies only to financial reporting.) Until recently, the harmonization of international managerial accounting practices has received little attention.

Additionally, international management accounting literature generally discusses issues such as the international finance function, currency translation problems, and the added complexities that international decision making imposes on managers. This is all relevant material; however, no mention is made of the national accounting organizations in several countries that are involved in management accounting practice pronouncements, or what coordinated international efforts, if any, have been made in the area. This article views international managerial accounting practice promulgation as an emerging area for potential harmonization. A

* J. B. Schiff is Professor of Accounting, Fairleigh Dickinson University. He is a former Staff Auditor for Price Waterhouse & Company, New York.

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review of harmonization efforts to date, a summary of managerial accounting practice promulgations from various countries, and the current international harmonization activities in management accounting are described and analyzed.

VIEWS ON THE HARMONIZATION EFFORT

That reactions to both the very idea of harmonization and the efforts toward such a goal to date have been mixed should not be surprising. Most of the negative comments concerning the concept of harmonization have been based on a nationalistic chauvinism in that specific national standards are considered to be the superior standards that should not be made subordinate to any others. Other negative views are based on fear that harmonization would force different cases into the same mold and thereby be an ineffective solution to problem areas. This reasoning, however, indicates that the commentators have confused the term "harmonization" with "standardization," which is simply a mistake. Other arguments voiced against the development of international accounting standards (IAS) include several ones familiar to U. S. accountants and to the Financial Accounting Standards Board (FASB): the danger that harmonized standards may be too detailed to allow professional judgment; the equal fear that too much latitude in such a standard may produce loopholes or an opportunity for deception in the structuring of transactions; and the familiar "standards overload" arguments, especially from developing nations.[1] The interests of these latter nations are mentioned often, especially by those who believe that international harmonization may subordinate or even sacrifice their needs to those of the more developed, industrialized countries.[2]

One criticism of the international standard-setting bodies has been that the drive is too strong to set standards on specific issues. This is valid criticism. It has been suggested that, rather than identifying a specific problem and forming a standard to solve it, more agreement should be on the basics at this early point in the international standard era before actual standard promulgation proceeds further. In order words, a few people are beginning to sense the need for some type of conceptual framework for the international realm. If an agreement could be reached on the underpinning of accounting theory, standards could be developed

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[1] David Solomons, *Making Accounting Policy* (New York: Oxford University Press, 1986), 190–91.
[2] Ibid., 62.

within that framework with greater ease. At this time, no international conceptual framework project is being considered.

IASC has been the object of some pointed criticism and of some strong support as well. Ralph E. Walters, former FASB member, stated that IASC appeared doomed at its inception because it is composed of accountants from only a few developed countries, it has no formal authority or enforcement powers, and it faces a nearly impossible task of neutralizing deep-seated nationalistic tendencies in its attempt to promulgate IAS. He also stated that, in light of these three "birth defects" of IASC, it has done remarkably well in its first decade-plus of existence. Walters and others have applauded standards of IASC because it has not attempted to define a single, rigid set of procedures in each area; rather, it has established a range of acceptable practices.[3]

Not everyone has been as pleased with IASC's efforts or output, however. R. A. Anderson, the 1983 chairman of the New Zealand Society's Financial Accounting Committee, believes that the IAS have been "overly permissive."[4] A second objection, and one that will be difficult to overcome, concerns the relationship of international standards to national laws or standards. Because the IASs carry no formal authority, no effort has been made to develop a mechanism to resolve differences among IAS requirements and those of the various countries involved. For example, the use of the equity method of consolidated financial statements (IAS 3) is illegal in Germany.[5]

Another criticism of IASC is its lack of enforcement powers. If a body such as IASC must depend on voluntary compliance with its promulgations, it needs the primary national standard setters behind it. This means that little action will occur until governments and other national bodies such as FASB support it.[6] The prospect that FASB will become an avid supporter, however, is dim.

Donald J. Kirk, current FASB chairman, has stated that

> FASB must concentrate on its mission to develop standards for entities that issue financial reports in accordance with generally accepted accounting principles . . . [FASB won't ignore IASC efforts] but will continue to concentrate primarily on its responsibilities within the context of U. S. capital markets.[7]

[3] Ralph E. Walters, "From National to International Standards: Can the FASB Bridge the GAAP?" *Status Report* (12 March 1984), 6.
[4] "Beware Lion's Mouth, Warns Head of IASC," *Accountants Journal* (1983), p. 4.
[5] Samuel Fox and Norlin Rueschhoff, *Principles of International Accounting* (Austin, Texas: Austin Press, 1986), 79.
[6] Walters, p. 6.
[7] Donald J. Kirk, "Some Comments on the Prospects for International Harmonization," *Status Report* (12 March 1984), 8.

Recalling that FASB cannot be an IASC member body, Mr. Kirk commented that "even if those circumstances were changed . . . it would be awkward . . . for the Board to participate in setting standards that inevitably would differ in important respects from [the FASB's] own standards."[8]

HARMONIZATION FROM A NEW PERSPECTIVE

These reactions to harmonization of financial reporting standards and the unenthusiastic response to the international auditing guidelines of IFAC indicate that the harmonization of financial accounting and auditing standards may be farther in the future than initially expected. Perhaps it is time to look at harmonization from a different perspective, that of management accounting practices. As stated by David Allen, finance director of Cadbury Typhoo Ltd. and the U.K. and Irish representative of IFAC's Financial and Management Accounting Committee (FMAC), "Company law and taxation may vary enormously from one country to another, but the same management accounting skills are in demand throughout the world."[9] The formation of IFAC's FMAC indicates that IFAC views the need for management accountants to assist in the effort of international harmonization. Robert L. May, president of IFAC, stated in a recent meeting of the Australian Accountants Centenary Congress that

> the job of international harmonization is huge, necessary, and a task for every accountant. . . . the relative exclusion of management accountants from our standard-setting deliberations and from our efforts at harmonization has been an error. . . .[10]

Management accounting professional bodies are beginning to take a serious look at management accounting practices and are developing authoritative guidelines for national use.[11] The question posed in this article is whether, given the areas being studied by these management accounting bodies and the procedures and conditions under which their practice guidelines are promulgated, some common ground exists on which international harmonization can be developed.

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[8] Ibid.

[9] David Allen, "The Place of Management Accounting on the International Scene," *Management Accounting* (U.K.) (July/August 1985), 31.

[10] "IFAC Head Stresses Management Accountants' Role in Harmonization," *Management Accounting* (NAA) (May 1986), 8.

[11] "International Harmonization of Management Accounting Practice Guidelines," *Management Accounting* (NAA) (November 1985), 10.

INTERNATIONAL EFFORTS IN MANAGEMENT ACCOUNTING PRACTICE GUIDELINE PROMULGATION

Four groups are currently active in the development of management accounting practice statements. This paper examines these bodies' promulgation procedures and output by topic to evaluate the opportunity for international harmonization. Additionally, the authority attaching to these promulgations wll be discussed.

The Institute of Cost and Management Accountants (ICMA — England)

The ICMA is a professional and examining body specializing in cost and management accountancy. Incorporated by royal charter, its purpose is to promote the study and adoption of scientific methods in the areas of cost and management accounting as a means to achieve the highest degree of efficiency in industry, business, and public-sector undertakings. Membership is not open to all professionals; only properly qualified and experienced persons are admitted. Although essentially a U.K. body, ICMA has understood the value of being internationally recognized, and as such has made this objective an important element of its operating strategy.[12]

One aspect of this objective has been the development of its Research and Technical Committee (RTC); another has been its participation in IFAC's FMAC. RTC was established to further the stated objectives of ICMA. This committee has the responsibility and authority to publish ICMA's management accounting guides (MAG — changed from guidelines in 1984). Regarding enforcement procedures, ICMA was not in favor of introducing management accounting *guidelines,* preferring instead to issue the guides based upon "best practice," and therefore leaving their use to the discretion of members as circumstances dictate.[13] Thus, although the MAGs are described as "authoritative and practical guides" in ICMA's literature, they are actually advisory, not mandatory. The MAG's issued to date are as follows:

No. 1, Inter-Unit Transfer Pricing (1981);
No. 2, Current Costs in Management Accounting (1981);
No. 3, Research and Development Costs (1982);
No. 4, Charging for Computer Services (1982);
No. 5, Standard Costing: Some Aspects of Implementation (1983);
No. 6, Capital Expenditure Control (1984); and
Management Accounting Official Terminology.

[12] Allen, "Management Accounting," 31.
[13] ICMA, MAG No. 1, iii.

ICMA promulgation process. As of the date of this article, no detailed description of the committee's exposure procedures has been available for inspection; however, a telephone conversation with ICMA's director of Research in London indicated that the current procedures are more "informal than formal." ICMA is currently in the process of developing and drafting new procedures that will be more formal (and democratic), such as exposure to ICMA members and other professionals. For the present, however, the Research and Technical Committee develops and publishes the MAGs.

The Society of Management Accountants of Canada (SMAC)

SMAC is the largest body representing management accountants in Canada. It is responsible for the accreditation and professional development of management accountants, as well as for the continuing development of the management accounting body of knowledge. With respect to its responsibilities in these areas, SMAC has developed extensive educational and professional developmental programs and has an active research program in both theoretical and practical areas of study. Among other things, this program has been designed to provide information to practitioners regarding both emerging management accounting principles and related implementation techniques.

The establishment of the Accounting Principles and Practices Committee (AP&P) formalized this research function in 1972. Through this committee, SMAC is publishing an increasing number of research monographs, commentaries on exposure drafts, and reviews of impending legislative issues of concern to the management accountant and the profession.[14] The AP&P Committee has enabled members of the accounting profession to remain current with the latest developments in management accounting and has helped practitioners to refine operating principles, practices, and techniques. The terms of reference of the AP&P Committee include the issuance of management accounting guidelines (MAGL); this activity extends the research program by providing management accountants with guidelines applicable to fundamental areas of practice.[15] The MAGL's issued to date are as follows:

Statement of Purpose and Operations (1983);
No. 1, Post Appraisal of Capital Expenditures (1984);

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[14] SMAC, MAGL, "Statement of Purpose and Operation," par. 1–5.
[15] Ibid.

No. 2, Estimating Cash Flows for Capital Expenditure Decisions (1985);
No. 3, Framework for Internal Control (1985); and
No. 4, Establishing the Discount Rate for Capital Expenditure Decisions (Exposure Draft).

Development process for SMAC guidelines. The areas of practice to be developed as MAGLs are identified by a subcommittee of the AP&P Committee, the Management Accounting Guidelines Subcommittee. Selection of topics for potential MAGLs is based on analysis of existing management accounting research and on input that the subcommittee receives from members of the professional and business communities. The subcommittee submits topics to the AP&P, which then ranks and selects topics for development. The selection and ranking process requires a majority of the AP&P to vote that a topic merits further development. Task forces are then assigned to develop and formulate specific guidelines.[16]

The developmental process consists of three phases:

Phase 1 — A statement of principles is produced to discuss the various issues and alternatives and to analyze the pros and cons of each issue.
Phase 2 — An exposure draft, based on the statement of principles, is released to members of SMAC and other interested parties and comments are invited. For an exposure draft to be issued, it must have the backing of at least two-thirds of both the AP&P Committee and the subcommittee.
Phase 3 — The final MAGL is produced, after the comments received on the exposure draft are considered. Again, the issuance of a MAGL requires the support of at least two-thirds of the AP&P Committee and the subcommittee.[17]

Adherence to the guidelines is voluntary, but it is usually expected unless the professionals involved judge the guidelines inapplicable in the particular circumstances. Wide acceptance and compliance are also expected because of the variety and breadth of input involved in the development process of guidelines.[18]

The New Zealand Society of Accountants (NZSA)

NZSA, incorporated by special act of Parliament in 1958, is the recognized organization of accountants in New Zealand. Membership is restricted in that applicants must meet educational, ethical,

[16] SMAC, MAGL, "Statement of Purpose," par. 19–21.
[17] Ibid., par. 22–23.
[18] Ibid., par. 13–15.

and experiencial requirements.[19] The administration of NZSA includes a separate Cost and Management Accounting (CMA) Division, formally created in 1969. It developed several promulgations, some of which have been repealed. The promulgations, known as CMA Bulletins (CMABs), in effect as of 1985, are as follows:

No. 8, Accounting and Pollution (1973);
No. 14, Human Factors in Systems Change (1976);
No. 15, Portfolio Management — The Role of Convertible Securities (1977);
No. 17, Total Productivity Agreement (1976);
No. 18, Cash Management Funds Planning (1978);
No. 20, Export — The Accountants' Role (1980);
No. 21, Inventory Management (1980);
No. 22, Strategic Options for the 1980s (1980);
No. 24, The Lease Evaluation Decision (1983);
No. 25, Inflation Adjusted Information and Current Cost Information (1983); and
No. 26, Reporting to Employees.

NZSA's Procedures. No specific procedures to follow in the development and exposure of NZSA's CMABs were indicated in the literature from the organization, nor was any further clarification obtainable at the time of this writing.

NZSA also issues other statements, the main one being its statement of standard accounting practice (SSAP). Between 1979 and 1985, sixteen SSAPs were issued. The exposure process for these included, among other procedures, publication in NZSA's monthly publication, *The Accountants Journal.* Although the SSAP series does not discuss management accounting, the information provided is illustrative in that it indicates that no such procedure is performed for the exposure (if any) of the CMABs. Thus, it can be reasonably assumed that the development and exposure procedures are less rigorous for the CMABs. No information was available regarding the CMABs' acceptance or enforcement, although the use of the term "bulletin" in itself may indicate that compliance is voluntary.

The National Association of Accountants (NAA — United States)

Since its founding in 1919 (as the National Association of Cost Accountants), NAA has been a leader in the evolution of cost accounting and the broader scope of management accounting. In

[19] NZSA, "Purpose of Society," *Accountants Journal* (March 1969), 1.

1969, NAA created the Management Accounting Practices (MAP) Committee, its senior technical committee. The MAP Committee's stated objectives are (1) to express the official position of NAA on various accounting matters to other professional bodies, governmental bodies, the financial community, and the general public; and (2) to provide authoritative guidance to the membership of NAA, along with the broader business community, on management accounting concepts, policies, and practices.

In an attempt to meet objective (1), the MAP Committee maintains liaison with organizations throughout the world, submitting written comments on issue papers and proposed standards or giving oral testimony on behalf of NAA at public hearings. NAA's strategy is national and international in scope; it maintains relationships with such organizations as the FASB, the Governmental Accounting Standards Board, the Securities and Exchange Commission (SEC), IASC, and IFAC.

To meet objective (2), the MAP Committee provides management accounting guidance by authorizing the publication of statements on management accounting (SMA). These relate to a framework for management accounting; their principal categories are (1) objectives, (2) terminology, (3) concepts, (4) practices and techniques, and (5) management accounting activities. These SMAs provide authoritative guidance for handling management accounting issues, including the statement of NAA's position.[20] Statements to date are as follows (note that the number of the standard indicates the principal category, 1–5 as listed, of the management accounting framework to which SMA relates; the asterisk indicates that the National Association of Accountants' Management Accounting Practices Committee is in the process of issuing statements.):

Statement of Purpose and Operations (source for the categories);
No. 1A, Definition of Management Accounting;
No. 1B, Objectives of Management Accounting;
No. 1C, Standards of Ethnical Conduct for Management Accountants;
No. 1D, Common Body of Knowledge for Management Accountants;
No. 2, Management Accounting Terminology;
No. 4A, Cost of Capital;
No. 4B, Allocation of Service and Administrative Costs;

[20] NAA MAP Committee, SMA, "Statement of Purpose," par. 6.

No. 4C, Definition and Measurement of Direct Labor Costs;
No. 4D, Measuring Entity Performance;
No. 4E, Definition and Measurement of Direct Material Costs;
No. 4*, Accounting for Indirect Production Cost;
No. 4*, Allocation of the Cost of Capital;
No. 4*, Allocation of Information Systems Costs;
No. 4*, Cash Management;
No. 4*, Measurement of Profitability in the Financial Services Industry; and
No. 4*, Early Warning Systems.

At this point, most of NAA's promulgation efforts have focused on the objectives, terminology, and practices and techniques categories of its framework for management accounting.

NAA's development and exposure process. Responsibility for identifying topics and for supervising the development of SMAs has been vested in MAP's Subcommittee on MAP Statement Promulgation. Suggestions for new projects come from a variety of sources, including subcommittee members and NAA staff. To be placed on the subcommittee's agenda, a project must be approved by two-thirds of the members of both the subcommittee and the MAP Committee. A member of the subcommittee takes responsibility for monitoring the progress of each statement. The person who drafts the statement (usually an NAA staff member, or an external consultant) uses original research conducted specifically for the project or relevant findings already available. A draft statement is brought before the subcommittee only on the recommendation of the monitor.[21]

When a majority of the subcommittee present at a meeting believe that a draft is ready for exposure to others, the draft is transmitted to members of two advisory panels. The first is composed of a representative sample of NAA chapter presidents or other chapter representatives; participation on this panel is rotated annually. The second panel consists of members of other organizations having an interest in accounting, such as the American Institute of Certified Public Accountants, SMAC, the Financial Executives Institute, and the American Accounting Association. Panelists submit comments to the subcommittee, which modifies the draft statements as necessary. The modified draft is then sent to the MAP Committee, where it will be (1) approved for issuance unchanged, (2) approved for issuance after being modified, or (3)

[21] Ibid., 2–3.

returned to the subcommittee for further development. The MAP Committee must approve issuance by at least a two-thirds majority. After approval, the SMA is published by NAA as part of its draft series and is reprinted in NAA's official journal, *Management Accounting.*

Since SMAs are "advisory," they are not binding on professionals. A high degree of support is usually expected, however, based on the authority attributable to the quality of membership on the MAP Committee and the subcommittee (i.e., members are recognized leaders in industry, public accounting, and academe, with the majority from industry). Acceptance and compliance are also expected due to the rigorous nature of the development and exposure process.[22]

ANALYSIS OF PROCEDURES FOLLOWED AND OPPORTUNITY FOR "HARMONIZATION"

The foregoing descriptions indicate two important points. First, each organization is at a different stage of development in the promulgation of management accounting practices statements. Second, the many areas of similarity among the organizations' perspectives and procedures suggest a potential for harmonization. The first point is reflected by the fact that two of the organizations,

Exhibit 1. Management Accounting Practice Promulgation

Management accounting practice	Related international promulgations
Control over capital expenditures	ICMA's MAG No. 6 SMAC's MAGLs Nos. 1, 2, 4 NAA's SMA No. 4A
Internal users of inflation-adjusted information	ICMA's MAG No. 2 NZSA's CMAB No. 25 NAA's SMA (in process)
Allocation of service and administrative costs	NAA's SMA No. 4B ICMA's MAG No. 4
Multinational transfer pricing	ICMA's MAG No. 1 NAA's Research Study
International cash management	NZSA's CMAB No. 18 NAA's SMA (in process)
Computer services and software cost control	ICMA's MAG No. 4 NAA's SMA (in process) IFAC Study No. 1

[22] Ibid.

although active in the field of management accounting, have not developed their committees' operations to the degree that the other organizations have. Specifically, NAA and SMAC have the most sophisticated approaches to management accounting promulgations. ICMA also has a well-developed body of thought in the area, yet it lacks the more open exposure process followed by NAA and SMAC. NZSA appears to be less rigorous than the other three in all of these areas.

Not surprisingly, none of the four bodies approaches FASB's level of democracy and "due process." The information available at the date of this study indicates that only SMAC presents a draft of its MAG to an audience approaching that of FASB — specifically, SMAC exposes prospective MAGLs to society members and other interested parties for comment. This procedure should enable the general business public to voice an opinion on a topic, much like FASB's due process procedure. NAA (the only other group for which specific data were available) exposes its drafts to a controlled panel of "accounting profession representatives"; thus, the comments it receives may be more biased and are not likely to be as varied if a more general group of people were invited to comment.

That none of the four bodies has any formal enforcement power over its promulgations, nor does any organization, such as the SEC, exist to put legal "clout" behind the bodies' pronouncements was noted. Also, strong evidence supports the main focus on this paper: the bodies, although geographically separated, appear to have the same perspective on management accounting and are identifying similar issues for examination. The similarity in perspective is evidenced by the view each holds as to the meaning and purpose of "management accounting":

SMAC

Management Accounting is a distinct branch of the accounting profession with its own body of knowledge. It is designed to provide information required for management planning, decision making, and control, for the stewardship of resources, and for reporting to owners and other interested parties external to the business.[23]

ICMA

The provision of information required by management for such purposes as:

1. formulation of policies,
2. planning and controlling the activities of the enterprise,

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[23] SMAC, MAGL, "Statement of Purpose," par. 6.

3. decision making on alternative courses of action,
4. disclosures to those external to the entity (shareholders and others),
5. disclosure to employees,
6. safeguarding of assets.

The above involves participation in management to ensure there is effective:

(a) formulation of plans to meet objectives (long-term planning),
(b) formulation of short-term operation plans (budgeting/profit planning),
(c) recording of actual transactions (financial accounting and cost accounting),
(d) corrective action to bring future actual transactions into line (financial control),
(e) obtaining and controlling finance (treasureship),
(f) reviewing and reporting on systems and operations (internal audit, management audit).[24]

NAA

Management accounting is the process of identification, measurement, accumulation, analysis, preparation, interpretation and communication of financial information used by management to plan, evaluate and control within an organization and to assure appropriate use of and accountability for its resources. Management accounting also comprises the preparation of financial reports for nonmanagement groups such as shareholders, creditors, regulatory agencies and tax authorities. . . . the objectives of management accounting are to: (1) provide information, and (2) participate in management. . . .

Management accountants discharge their responsibilities by organizing and implementing activities in seven principal categories: reporting, interpretations, resource management, information systems development, technological implementation, verification and administration.[25]

A similar statement from NZSA was not available.

It is obvious that each group of management accountants seeks to achieve the same results. Also, at least six management accounting issues are of concern to more than one of the four bodies, as evidenced by a comparison of output. (See Exhibit 1 for the list of similar interests expressed in this area.) It is apparent that, in the words of David Allen,

one of the key features of the international management accounting scene is the similarity of the problems and opportunities which dominate the situation in the various countries. The need to cater to the strategic level of management, the need to manage foreign currency risks, and the explosive growth of the treasury function are examples of this similarity. . . .[26]

[24] ICMA, "Management Accounting Official Terminology," 10–11.
[25] NAA MAP Committee, SMA No. 1B, 1–4.
[26] Allen, "Management Accounting," 31.

Thus, the harmonization of practices from the perspective of management accounting appears to be attainable more readily than harmonization of financial accounting. Agreement already exists on the "basics" of management accounting issues (recall that this was a criticism of the financial accounting harmonization movement). Similar issues are being investigated simultaneously by management accounting bodies across the globe. Indeed, in Allen's words, "There is a place for international cooperation on such issues."[27]

RECENT ACTIONS OF IFAC's FMAC

FMAC appears to be the body that could direct the course of international management accounting promulgations. Formed as one of IFAC's seven standing committees, eight countries are represented on it: the United States, the United Kingdom, Australia, Canada, India, Pakistan, the Philippines, and South Africa. The committee meets twice a year and its output thus far has been occasional papers and studies, but guidelines have been promised for the future (see the following list). The first study, "The Control of Computer Applications," was submitted for publication in 1985; at that time, work was proceeding on other topics, such as (1) management of foreign currency risk, (2) strategic financial management, (3) ethics, (4) social accounting, and (5) cash-flow reporting. In addition, an international network of financial managers has been established to obtain timely input on emerging topical issues.[28] It is apparent that the stated agenda of FMAC is in line with the issues identified by the individual national bodies described previously.

FMAC is the most promising organization on the international accounting scene. Before the IFAC Council are committee recommendations containing new operating procedures that would grant authority to the committee to issue international management accounting practices — statements, and international management accounting — studies on behalf of the IFAC Council (just as IFAC's International Auditing Practices Committee has been permitted to do). These recommendations also provide for a due-process procedure for management accounting practice statements similar to that followed by the International Accounting Practices Committee but are expanded to include FMAC's international network of senior financial and management accounting executives. Council

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[27] Ibid.
[28] Ibid.

approval of these recommendations will set the stage for the future and give a strong impetus to the idea of harmonization of management accounting practices.

At the IFAC Council's meeting of November 3–4, 1986, it voted to approve the "Preface to Statements on International Management Accounting Issued by the International Federation of Accountants" and "Operating Procedures" for FMAC. The "Preface" provides FMAC with the authority to issue, without prior clearance from the council, international management accounting practices and guidelines.

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The Perceived Efficacy of Government Incentives: A Comparative Study of Seven European Community Countries

THOMAS M. PORCANO*

In addition to raising revenue, governments use tax policy (as a fiscal policy measure) to control the economy, supplement and/or provide social welfare programs, stimulate specific (targeted) activities, provide equitable treatment to taxpayers, and enhance their political positions. When tax provisions are used in this manner, the tax system begins to violate criteria ncessary for a good tax system: convenience, certainty, economy (from an administrative cost and an efficiency perspective), and equity. If these provisions successfully achieve their objectives, loss in efficiency and deviation from the criteria are acceptable to an extent. When the provisions do not accomplish the intended goals, however, the system becomes dysfunctional: it lacks the requisite aspects to make it a good system, and it adds little to the economy or society.

The governments of European Community (EC) countries use tax provisions to attempt to accomplish these goals. One aspect of controlling the economy is to provide tax incentives that stimulate corporate investment in fixed assets. Such investment is generally considered an important source of growth because it stimulates

* Thomas M. Porcano is Professor of Accountancy, Miami University, Oxford, Ohio.

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productivity, and, in the classical Keynesian approach, its major impact is derived from the multiplier effect. Theoretically, larger tax incentives lead to increased fixed-asset investment. The presumption is a direct causal effect, which assumes that tax incentives are an important factor in the corporate decision-making process to acquire fixed assets.[1] The validity of these presumptions and assumptions is questionable.

This article presents the results of research on the importance of tax policy in the corporate decision to acquire fixed assets. Seven EC countries are used in the study: Belgium, Italy, Denmark, the Netherlands, France, the United Kingdom, and West Germany. Greece, Ireland, and Luxembourg were excluded because they had an insufficient number of corporations available to study. Portugal and Spain were also excluded because they were not EC members at the time of the study.

INCENTIVE PROVISIONS

Although each country has different specific tax provisions, all such provisions can be broadly classified according to tax rates, depreciation, net operating loss (NOL), other tax provisions, and nontax provisions. All provisions affect the after-tax cost of investment, increasing the present value of cash flows and, thus, presumably, making the fixed-asset investment choice more favorable. Rose and O'Neil note that tax incentives appear to influence business capital investment in two ways: by reducing the price of capital and by increasing the flow of internal funds available to finance the purchase of new assets.[2]

Exhibit 1 contains a very general outline of each country's various provisions.[3] A review of the data presented in Exhibit 1 indicates little consistency among the EC countries. Each uses a somewhat different set of provisions to influence the fixed-asset decision. In addition, recent changes indicate, in part, a dissatisfaction with prior provisions.

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[1] A very important distinction exists between causality and use. The tax incentives are intended to cause (or significantly influence) the behavior; however, they might have a very minor impact but corporations still would use the provisions to reduce their tax burdens. In such situations, the tax provisions provide unintended and unnecessary windfalls and should be altered or repealed.

[2] C. C. Rose and C. J. O'Neil, "The Viewed Importance of Tax Incentives by Virginia Decision Makers," *Journal of the American Taxation Association* (Fall 1985), 34–43.

[3] Only significant provisions that are intended to influence the fixed asset decision are presented. Thus, not all provisions are listed. Also, those intended primarily to influence another decision (e.g., hiring a certain type or number of employees) are not presented.

Exhibit 1. Fixed-asset Acquisition Incentives by Country

Tax provisions	Belgium	Denmark	France	Italy	The Netherlands	The United Kingdom	West Germany
1. Tax rate (Percentage)	31–45	50	50 — Distributed 45 — Undistributed	36 18 in South	43	35[a]	36 — Distributed 56 — Undistributed
2. NOLs	Forward 5 yrs.	Forward 5 yrs.	Forward 5 yrs. Back 3 yrs.	Forward 5 yrs.	Forward 8 yrs. Back 2 yrs.	Forward[b] Back 3 yrs.	Forward 5 yrs. Back 2 yrs.
3. Depreciation	Straight line Some accelerated	Straight line Some accelerated	Straight line Some accelerated[c]	Straight line Some accelerated	Straight line Some accelerated	Straight line Some accelerated[d]	Straight line Some accelerated
4. Other[e]	Investment deduction (1st year) Tax holidays Super profits tax	Investment allowance (1st year) Investment fund	Paris area disincentive Bankrupt company acquisition	None	WIR SIR	None	None
Nontax provisions							
1. Low interest loan or interest rebates	Yes	Yes	None	Yes	None	Yes	None
2. Grants — quite varied in application	None	Yes	Yes	Yes	Yes	Yes	Yes
3. Subsidies — quite varied in application	None	Yes	None	None	Yes	None	Yes
4. Other	None	None	None	Limited	IPR	None	Limited

[a] 30 percent for small firms.
[b] Unlimited.
[c] Additional bonus depreciation in first year expired on 31 December 1985.
[d] Except for a few projects, as of 1 April 1986, the FYA was fully phased out.
[e] Several countries also allow special write-offs for research and development activities and/or certain regional projects, which can include credits, rebates, and additional depreciation allowances.

From a supply-side perspective, tax rates affect the decision because the benefit of a deduction (e.g., depreciation) is a function of the firm's tax rate. Thus, ceteris paribus, higher tax rates make the deduction more beneficial, and, therefore, provide greater incentives to invest in fixed assets. Rates range from 18 percent of taxable income for firms in Southern Italy to 56 percent of undistributed profits (taxable income) in West German firms; most rates are proportional tax structures. Belgium and the United Kingdom provide lower rates for smaller firms (based on taxable income). Tax rates changed very recently in Denmark, Italy, the Netherlands, and the United Kingdom; in all but Denmark and Italy, they were reduced.

Italy's two-tier structure, which reduces the tax rate by one-half for firms in Southern Italy, can have two differing effects. From a supply side, the lower rates make depreciation and other deductible provisions less attractive; the after-tax cost of the asset is higher. However, lower rates also increase after-tax income so that an additional 50 percent is retained by firms investing in Southern Italy. The net effect of the two structures is uncertain and depends on many factors (e.g., amount of investment, expected income from investment, and the firm's financial situation before the investment).

France and West Germany provide differential rates depending on whether the firm has distributed its profits to shareholders. Interestingly, these rates work in opposite ways. France provides a reduction of 5 percentage points for firms that do not distribute profits, whereas West Germany provides a 20 percentage-point reduction for firms that make distributions to shareholders. Although these provisions relate to double taxation and integration of corporate and individual tax issues, they also may have an impact on the fixed-asset decision. If we assume that firms finance capital expenditures in part from their retained profits, the French policy should have a more favorable impact than the West German one because it provides an incentive to retain profits.

The depreciation policies of the countries vary. All provide for some form of accelerated write-off, although many restrictions apply with respect to maximum amounts per year, type of property (e.g., equipment, building), and limited number of years (e.g., the first three years). Faster write-offs presumably provide greater incentives to acquire fixed assets because they decrease the present value of the after-tax cost associated with the acquisition.

The United Kingdom had a very liberal write-off policy: 100

percent in the first year for equipment and 75 percent for industrial buildings. Presumably, such a large write-off would have a significant impact on the fixed-asset decision. The government believed that the write-off had too great an impact and caused firms to make uneconomical and unsound decisions that were purely tax motivated. Therefore, the United Kingdom repealed the first year allowance (FYA), phasing it out over three years (ending 1 April 1986); henceforth, a 25 percent declining balance method will be available.[4]

The FYA remains in effect for certain scientific projects or in specified development areas (enterprise zones). In addition, France had a first-year bonus depreciation provision that ranged from 11 percent to 16 percent of the cost of equipment, but this expired on 31 December 1985. West Germany also provides for certain extraordinary first-year write-offs of fixed assets used in specified areas (e.g., up to 75 percent in West Berlin). Also, several countries provide faster write-offs for assets acquired in connection with research and development activities. By providing faster and/or additional write-offs, the governments are attempting to stimulate activity in particular research projects, especially related to high technology and/or in extremely remote geographic areas or areas that suffer from severe economic conditions.

All countries provide NOL carryforwards for at least five years, with the United Kingdom allowing an unlimited time period. In addition, Belgium and France have unlimited time periods for depreciation deductions included in the NOL, and Belgium and the Netherlands have unlimited time periods for losses incurred in the firm's first five and six years of operations, respectively. Four countries, France, the Netherlands, the United Kingdom, and West Germany, also have carryback periods, although the time period, mechanics, and extent of what can be carried back vary (e.g., in the United Kingdom, only the FYA can be carried back for three periods). The NOL provisions impact the fixed-asset decision only to the extent that they ensure that any deductions associated with the assets will not be lost if the firm is in a loss position at some period during the assets' useful lives. If no such provisions existed, all deductions would be meaningless for any

[4] The loss of the FYA is in part offset by reductions in the corporate tax rate; after 1 April 1986, the rate dropped to 35 percent. Thus, the impact is presumably mitigated by the rate reductions. Also, the 25 percent declining balance method is not available for certain assets.

firm in a loss position, and thus the expected incentive aspect of these deductions would be lost.[5]

A review of Exhibit 1 indicates tht Belgium, Denmark, the Netherlands, and France have other tax provisions intended to affect fixed-asset acquisitions. Belgium provides an investment deduction in the first year. The amount ranges from 7 to 20 percent of the cost of new assets and is in addition to depreciation; it does not reduce the asset's depreciable basis. Also, a tax holiday for ten years is available on income generated from investment in new industrial or service-rendering ventures in high technology research if they are conducted in designated employment zones, and a specified number of employees are hired. Finally, Belgium has a super profits tax that is similar to a negative reinforcement form of investment incentive. If a firm has "super profits," it must either give an interest-free loan to the government or invest in new fixed assets. Thus, to obtain any return on these funds, the firm must invest in profitable fixed assets.

Denmark has two other tax provisions that are intended to stimulate fixed-asset acquisitions. First, an investment allowance in the asset's first year provides an additional deduction equal to 5 percent of the cost of certain equipment used by manufacturing companies; it does not reduce the asset's depreciable basis. Second, firms may take advantage of the investment fund provisions that permit them to allocate up to 25 percent of taxable income to this special fund; thus, 25 percent of income is deferred from taxation. Within six years, however, the firm must use the amount to acquire fixed assets, the depreciable basis of which is reduced by the previous allocation. Contrasted to Belgium's super profit tax, this provision is optional and is a positive reinforcement.

The Netherlands also has two other tax provisions. Wet investeringsrekening (WIR) is a refundable credit equal to 12.5 percent of the asset's cost, with additional amounts for small-scale projects and pollution control and energy savings devices. The WIR does not reduce the asset's depreciable basis and is not available if accelerated depreciation is taken. The status of the WIR has been uncertain, however; shortly before this article was written, it was apparently repealed in conjunction with a lowering of corporate

[5] Firms in a loss position before the investment would receive no benefits from the write-offs, and firms that are in a loss position after the write-offs would receive benefits only to the extent that they reduced the firms' taxable income to zero.

tax rates and social welfare contributions.[6] The Wet selectieve investeringregeling (SIR) is a levy on new industrial buildings established in the RANSTAD, an area essentially bounded by Rotterdam, Amsterdam, The Hague, and Utrecht. Its purpose is to prevent further congestion in this area. The SIR has been in a constant state of deferral and will probably be abolished.

The Paris-area disincentive is similar to the SIR in that it is a nondeductible tax incurred to acquire (other than by rent) an office building or factory in the Paris area. It is intended to discourage acquisitions in this area. France also has a provision whereby the income associated with the acquisition of a building of a bankrupt company or one that is experiencing losses is exempted from taxation for the first three years.[7]

Nontax incentives appear to have an important role in government policies of several EC countries. These can be broadly classified as low interest rates, grants, subsidies, and other provisions. Belgium, Denmark, Italy, and the United Kingdom provide low interest rates and/or interest rebates for certain fixed-asset projects. The lower finance costs reduce the investing firm's cash outflows, which increase the net present value of the investment. Since interest expense is deductible, the reduced finance costs, although beneficial, are not so large a deduction as appears unless the firm is in a loss position or a very low tax bracket.

The use of grants and/or subsidies is quite common, and apparently all countries but Belgium have some such program. The specific provisions vary in each country, but most provide tax-free assistance for fixed-asset projects undertaken in specific areas (e.g., border areas and economically depressed areas) or specific activities (e.g., research and development, new products, tourist industry). Also, some activities are required to create a specific number of jobs. In addition, French grants are generally not available for fixed-asset projects in Paris. Similarly, the investment premium regulation program of the Netherlands provides a rebate of 15 to 35 percent for projects ouside the RANSTAD.[8]

Obviously, the grant and subsidy programs are designed to

[6] See M. Metcalfe, "After Slump, Industry Begins to Pick Up," *International Herald Tribune* (16 November 1985), 16.

[7] The tax holiday is also available if a firm acquires the bankrupt company totally. Also, several countries provide tax holidays from local taxes that would otherwise be imposed on the income from activities in that area.

[8] Technically, the investment premium regulation rebates are not part of subsidy or grant programs. However, for convenience, they are discussed with these programs because they are very similar.

provide a major stimulant to investment activities. Because the government essentially funds a certain percentage of the acquisition (depending on the country, amounts can range as high as 45 percent), although it does not share in the profits, it is responsible for these programs that should have a large impact on the fixed-asset decision. Indeed, because such programs appear to be very generous, we would expect them to be more important than the tax provisions, although the extensive filing procedures and formal request requirements can be cumbersome and therefore can reduce the effectiveness of the programs.

Finally, Italy provides lower rail charges and electricity rates for projects in Southern Italy. Also, West Germany apparently subsidizes certain transportation costs incurred because of fixed-asset projects undertaken in remote areas (e.g., West Berlin).

Whether any of the tax and/or nontax provisions are effective is a function of many factors. For example, before making a fixed-asset acquisition, many variables must be considered: economic conditions, interest rates, current capacity, product demand, labor supply, distance to markets, and so on. Also, the specific provision proposal sometimes appears more generous than it is in application. For example, statutory tax rates are not as important as effective tax rates. Because various provisions enable firms to reduce their tax payments substantially, the effective tax rates are more relevant as incentives. Similarly, although tax holidays appear gratuitous, most projects usually incur losses in the first few years, or at least incur a greater portion of their deductible expenses at this time; thus, tax holidays for three to five years are meaningless.

The NOL provisions have little impact because firms in a loss position receive no immediate benefits from deductions, and by the time they do receive the benefits (from carryovers), the discounted value is substantially reduced.[9] Presumably, accelerated write-offs should impact the decision to acquire fixed assets because they reduce the present value of the after-tax cost of investment. However, moderate levels of acceleration may have little impact. Also, previous research has shown that depreciation and investment tax credit provisions appear to have little impact on the decision

[9] Also, as Edwards notes, the unused allowances are carried over in nominal terms, so their value to a firm depends not only on when in the future the firm expects to use them, but also the expected rate of inflation during the intervening period. As both of these increase, the value of NOLs (and special allowances included in them) decline substantially. See J. Edwards, "The 1984 Corporation Tax Reform," *Fiscal Studies* (May 1984), 30–44.

to acquire fixed assets.[10] Similarly, most other tax provisions should have the same impact with perhaps three exceptions: Belgium's super profits tax, Denmark's investment fund provision, and the Netherland's WIR provision, because they are comparatively larger than the other provisions.

Since the nontax provisions can be substantial in amount, presumably these should have a larger relative impact on the fixed-asset decision.[11] Again, however, many other factors influence this decision, and sometimes the provisions of the grants and subsidies are quite restrictive and the application process quite lengthy, so the nontax provisions might not be so effective as anticipated.[12]

NATURE OF THE STUDY

The questionnair was sent to 517 vice presidents of finance of large corporations listed in *Moody's International Manual.*[13] The number of corporations from each country is indicated in Exhibit 2. For France, the United Kingdom, and West Germany, random samples of 100 firms were selected; for the remaining countries, all firms listed in Moody's were chosen because fewer than 100 were available for each. A second mailing was sent one month later to all nonrespondents.

Large corporations were selected for several reasons. First, their addresses were readily available. Second, they account for a large portion of each country's economic productivity; if incentive provisions affect these corporations' decision making, the economies of the countries will perhaps expand sooner. Finally, these firms presumably have more funds available for capital expenditures, are more aware of incentive effects, and use more sophisticated decision models. If the incentive provisions have little or no impact on these firms, the economies will not expand as quickly as expected and the government will be providing windfalls because the lost

[10] For example, see R. Eisner, "Tax Incentives for Investment," *National Tax Journal* (September 1973), 397–401; R. Eisner and P. J. Lawler, "Tax Policy and Investment, An Analysis of Survey Responses," *American Economic Review* (March 1975), 206–12; and T. M. Porcano, "The Perceived Effects of Tax Policy on Corporate Investment Intentions," *Journal of the American Taxation Association* (Fall 1984), 7–19.

[11] EC grants and other forms of aid are also available. Because they are not programs for a specific country, however, they are not included in this study.

[12] For example, Japanese officials emphasize that financial aid is rarely the deciding factor in direct investment. See A. Krause, "Japanese Invasion of Europe," *International Herald Tribune* (10 December 1985), 1, 7.

[13] Moody's Investor Service, Inc., *Moody's International Manual* (New York: MIS, 1983).

Exhibit 2. Survey Responses

Country	Number mailed	Number returned: Address unknown	Incom-plete*	Com-plete	Response rate: Total†	Usable‡
Belgium	47	6	2	14	39%	34%
Denmark	47	—	2	26	60	55
France	100	1	1	21	22	21
Italy	44	—	1	15	36	34
The Netherlands	79	1	5	31	46	40
The United Kingdom	100	2	6	31	38	32
West Germany	100	—	6	40	46	40
Total	517	10	23	178	40	35

* Letter indicated that it was the firm's policy not to respond to questionnaires or that the firm believed that the questionnaire did not apply to it.
† (Incomplete + Complete) ÷ (Number mailed − Address unknown).
‡ (Complete) ÷ (Number mailed − Address unknown).
Of the total 33 unusable responses, 10 were due to incorrect addresses and 23 were not completed because the firms essentially had policies of not responding to nongovernment questionnaires. Thus, the total response rate was 40 percent (201 ÷ 507), and the usable response rate was 35 percent (178 ÷ 506).

revenue in tax collections will not be offset by the expected stimulus effect of the incentives.

The responses were used to (1) develop a group profile, (2) classify the group by country and size, (3) examine the indicated perceived effects of certain incentive provisions on the firms' decision making, (4) examine the relative importance of certain variables in the fixed-asset decision-making process, and (5) compare responses by firm size within each country, and country by country.

The Questionnaire

The questionnaire (see the Appendix) consisted of three parts and was typed in Danish, English, French, German, and Italian.[14] Part A requested each respondent to indicate the firm's total assets, net income, and normal yearly capital expenditures for financial reporting purposes. The responses were used to classify each firm by size and by country.

Part B of the questionnaire contained a list of fourteen factors that might have an impact on a firm's decision to acquire fixed assets. This list is not all inclusive and contains many supply-side

[14] A somewhat similar version of the questionnaire has been pilot tested and used successfully in the United States. See Porcano, "Tax Policy on Corporate Investment Intentions."

factors (i.e., those affecting the firm's ability to supply or produce its goods). However, some of the factors also concerned the demand side. For example, economic conditions (current and expected), and normal expansion and/or modernization plans relate to or are affected by consumer demand. Included in the list of factors were the government incentive provisions: specifically, expected changes in tax rates, tax depreciation deductions, tax credits for equipment acquisitions, other tax laws, and government grants for fixed-asset projects. The questionnaire asked the respondents to rate the importance of these factors in their firms' decisions to acquire fixed assets. A five-point Likert scale was used, with 1 indicating very unimportant and 5 indicating very important. The responses provide a measure of absolute importance of these factors.

Since the tax laws of many of the countries recently have changed or have been subjected to proposed changes, Part B also asked the respondents if any recent changes or proposed changes had affected their firms' fixed-asset decision. If the answer was yes, they were asked to list the specific provision(s), if possible.

Part C of the questionnaire asked the respondents to rank the relative importance of the same fourteen factors as in Part B, on a scale of 1 to 14, with no ties, where 1 was most important and 14 was least important. Thus, while responses to Part B provide a measure of absolute importance and provide relevant information for broadly categorizing factors as important, somewhat important, unimportant, and so on, the responses to Part C provide a relative measure of each factor's importance in fixed-asset decisions.

The responses were analyzed in several ways to determine whether any of the incentives (1) are effective overall within a particular country, (2) have differential effects on different-sized firms within a particular country, and (3) are overall more (less) effective in some countries. The first two analyses involve intracountry comparisons, and the latter deals with intercountry comparisons. A variety of statistical tests was used in the analyses.

RESULTS

Response Rate

A total of 89 responses were received after the initial mailing, of which 13 could not be used. The second mailing produced 122 responses, of which 102 were usable. Exhibit 2 contains detailed responses by country.[15]

[15] Initially 517 questionnaires were mailed. Because 10 had incorrect addresses (the firms had moved or liquidated), only 507 were used for response rate calculations.

The usable response rate compares favorably to the modal range of 20 to 40 percent generally expected for mailed questionnaires[16] and was considered satisfactory. In addition, specific tests for nonresponse bias were made using the early-late hypothesis, which states that late respondents are similar to nonrespondents;[17] thus, if no significant differences exist beween early and late respondents, nonresponse bias is not present.

The tests consisted of comparisons of the responses for thirty-five questionnaires received from the first mailing with responses for the last thirty-five questionnaires received from the second mailing.[18] Responses to all questions except firm size were compared using t values, and Spearman's rank correlation coefficient (r_s). The test results indicated that none of the thirty response distributions was significantly different at an alpha level of .05. Additionally, net income and total assets of respondents were compared to those of nonrespondents, since these data were available in *Moody's International Manual.* These comparisons indicated that a large range of companies was represented; some of the largest and smallest companies listed in the manual were represented in the study. These results and the results of specific tests indicate that a serious nonresponse bias was not present.

Group Profile and Classifications

Respondents were asked to provide certain financial data about their firms, specifically total assets, net income, and yearly capital expenditures. Exhibit 3 contains a summary of these responses. The figures are stated in millions of each country's currency (e.g., French francs, pounds sterling). A review of the mean and median responses indicates that in general, these firms are large with respect to all firms in their countries. Also, the range of responses indicates that a wide variety of firms is represented.

Firms were classified as large or small based on median values. Thus, for example, a French firm was classified as large if its total assets were greater than 1,000 million francs. Firms were also classified based on net income and capital expenditure, and each classification was independent. That is, a firm could be large based on total assets and small based on net income or capital expendi-

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[16] F. Kerlinger, *Multiple Regression Analysis in Behavioral Research* (New York: Holt, Rinehart and Winston, 1973).

[17] A. N. Oppenheim, *Questionnaire Design and Attitude Measurement* (New York: Basic Books, 1966).

[18] The tests were administered separately for each country; thus, the thirty-five consist of five responses for each of the seven countries.

Exhibit 3. Group Profile

Country	Median†	Mean	Low‡	High‡
	Attribute*			
Belgium				
Total assets	6,918	12,969	643	40,098
Net income	685	837	−4,128	7,739
Capital expenditures	9,999	3,090	99	17,300
Denmark				
Total assets	1,619	2,930	18	19,629
Net income	123	122	−25	338
Capital expenditures	131	142	1	610
France				
Total assets	1,000	4,585	319	32,055
Net income	50	92	−429	700
Capital expenditures	149	538	10	4,999
Italy				
Total assets	1,172,609	1,768,652	101,605	6,102,140
Net income	9,257	40,517	−2,195	220,087
Capital expenditures	35,271	198,995	8,445	1,131,810
The Netherlands				
Total assets	726	1,988	125	23,499
Net income	31	52	2	290
Capital expenditures	50	87	5	1,000
The United Kingdom				
Total assets	183	602	6	7,000
Net income	17	49	−101	277
Capital expenditures	25	79	1	500
West Germany				
Total assets	1,603	2,479	155	10,914
Net income	36	82	−297	728
Capital expenditures	60	198	4	850

* In the country's own currency; stated in millions.
† Used to classify as small or large in their own country.
‡ The low and high figures for total assets, net income, and capital expenditures are not necessarily from the same firm.

tures. Thus, a French firm was considered large for net income purposes if its net income was greater than 50 million francs. Similarly, capital expenditures greater than 149 million francs produced a large classification.

Three different classifications were used because the effectiveness of incentive provisions is dependent on the firm's ability to use and take advantage of them. Because some provisions are based on or affected by income and others by capital expenditures, separate classifications are needed. Also, the size of these different items (assets, income, and expenditures) affects the firm's ability to take advantage of provisions; presumably larger firms have greater funds available to invest in different projects.

Mean values were not used to classify firms because this would have produced different-sized groups. Using median values produces equally sized (in terms of number of members) groups. The resulting groups — small and large — were very different. Results of t-tests for differences of means indicated that on average, the groups were significantly different ($\alpha \leq .05$) in each category. On average, firms in the large group were much larger than firms in the small group.[19]

Comparisons of firms, when based on size, are made using the three different classifications. For purposes of brevity and clarity, only results based on the total assets classification are reported in the exhibits. However, results of comparisons using the other classifications are mentioned where relevant.

Importance Ratings of Incentives

Exhibit 4 contains the mean ratings of each factor by country. Thus, for example, on average, French firms rated current unrestricted funds on hand as 3.67 on a 5.00 scale. The range of mean responses was 2.36 for the ability to raise funds via equity by Italian firms to 4.60 for normal modernization plans by French firms. Within each country, firms rated at least one factor at the two level and at least one factor at the four level. The range of 4.00 or more indicated the measure is considered important, 3.50 to 3.99 somewhat important, 3.00 to 3.49 as indifferent, and less than 3.00 as unimportant. In general, the overall ratings of the incentive provisions are very low. The provisions do not appear to be influential, nor do they appear to have much of an impact on the firms' decision making in the fixed-asset area. To obtain further evidence, the ratings of different-sized firms are discussed next.

Exhibit 5 contains the mean ratings of small versus large firms within each country. Using .05 as the level of significance, only two of the ninety-eight comparisons were significantly different. Perhaps the large firms are more familiar with the application and approval process and/or are better staffed to take advantage of them. Perhaps the large firms make more frequent acquisitions and are more familiar with and used to receiving the credits.

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[19] Although the firms are categorized as large and small, these are relative terms. Thus, small firms in this study are not representative of small, local businesses.

Exhibit 4. Importance Rating of Factors — Overall

Item	Belgium	Italy	Denmark	The Netherlands	France	The United Kingdom	West Germany
1. Current unrestricted funds on hand	3.14	2.21	2.58	2.90	3.67	2.76	3.58
2. Ability to raise funds via equity	3.14	2.36	2.62	2.94	3.29	2.31	3.08
3. Ability to raise funds via debt	3.79	3.07	3.27	3.45	3.86	3.10	3.15
4. Interest rates	3.07	3.80	3.58	3.65	3.38	3.45	3.10
5. Normal modernization plans	4.31	4.27	4.04	4.23	4.60	4.10	4.10
6. Current economic conditions	3.43	3.07	3.50	3.87	3.91	3.69	3.55
7. Expected changes in the economy	4.07	2.93	3.58	4.00	4.05	3.69	4.15
8. Inflation	2.86	2.67	2.81	3.10	2.95	3.28	2.65
9. Normal expansion plans	4.08	4.14	4.27	4.00	4.43	4.21	3.75
10. Expected changes in tax rates	2.79	2.67	2.65	3.23	3.05	3.28	2.83
11. Tax depreciation deductions	3.29	3.20	2.96	3.81	3.05	3.59	3.23
12. Tax credits for equipment acquisitions	3.29	3.27	2.77	3.81	3.35	3.45	3.15
13. Other tax laws	2.93	2.93	2.54	3.32	2.57	2.72	2.65
14. Government grants for fixed-asset projects	3.29	3.60	2.89	3.71	2.86	3.38	3.03

Exhibit 5. Importance Rating of Factors — by Firm Size†

Item	Belgium Small	Belgium Large	Italy Small	Italy Large	Denmark Small	Denmark Large	The Netherlands Small	The Netherlands Large	France Small	France Large	The United Kingdom Small	The United Kingdom Large	West Germany Small	West Germany Large
1. Current unrestricted funds on hand	3.43	2.86	2.25	2.17	2.38	2.77	3.00	2.80	3.82	3.50	2.93	2.57	3.45	3.70
2. Ability to raise funds via equity	3.43	2.86	2.25	2.50	2.23	3.00	2.75	3.13	3.36	3.20	2.20	2.43	2.95	3.20
3. Ability to raise funds via debt	4.00	3.57	2.75	3.43	3.00	3.54	3.19	3.73	3.64	4.10	2.87	3.50	3.10	3.20
4. Interest rates	3.14	3.00	3.38	4.29	3.38	3.77	3.63	3.67	3.09	3.70	3.07	3.86	2.95	3.25
5. Normal modernization plans	4.29	4.33	4.00	4.57	4.23	3.85	4.38	4.07	4.40	4.80	4.33	3.86	4.35	3.85
6. Current economic conditions	3.71	3.14	2.88	3.29	3.08	3.92	3.88	3.87	4.09	3.70	3.47	3.93	3.50	3.60
7. Expected changes in the economy	4.00	4.14	2.38	3.57	3.08	4.08	4.00	4.00	4.27	3.80	3.47	3.93	4.00	4.30
8. Inflation	3.00	2.71	2.25	3.14	2.46	3.15	3.06	3.13	3.18	2.70	3.07	3.50	2.55	2.75
9. Normal expansion plans	4.28	3.83	3.63	4.83	4.31	4.23	4.19	4.00	4.36	4.50	4.33	4.07	3.80	3.70
10. Expected changes in tax rates	2.71	2.86	2.25	3.14	2.62	2.64	2.81	3.67	3.27	2.80	3.07	3.43	2.60	3.05
11. Tax depreciation deductions	3.43	3.14	3.13	3.29	3.00	2.92	3.81	3.80	3.27	2.80	3.33	3.86	3.30	3.15
12. Tax credits for equipment acquisitions	3.43	3.14	3.38	3.14	2.92	2.62	3.75	3.87	3.10	3.60	3.07†	3.86†	3.15	3.15
13. Other tax laws	3.00	2.86	3.25	2.57	2.69	2.38	3.44	3.20	2.64	2.50	2.67	2.86	2.65	2.65
14. Government grants for fixed-asset projects	3.86	2.71	3.75	3.43	3.08	2.69	3.81	3.60	2.36†	3.40†	3.07	3.71	2.65	3.40

* Based on total assets.
† Significantly different at $\alpha \leqslant .05$.

When firms were classified based on net income and capital expenditures, even greater agreement results. None of the ninety-eight comparisons differs significantly under either situation. Regardless of the method used to classify firms by size, a great deal of agreement appears among the different-sized firms within each country. These results, along with the findings presented in Exhibit 4, provide evidence that government incentive provisions in the different countries, using different methods and techniques, appear to be ineffectual in influencing corporate decisions to acquire fixed assets. To analyze this further, the firms' relative rankings are discussed next.

Importance Rankings of Factors

Exhibit 6 contains the overall rankings of the fourteen factors by country. These factors are listed in the order of their appearance on the questionnaire.[20] Although agreement among the firms in the different countries is not 100 percent, a great deal of correspondence exists among the rankings. Spearman's rank correlation coefficient (r_s) was used to measure the similarity in rankings. This is a nonparametric test that measures the intensity of correlation between two sets of rankings or the degree of correspondence between them.[21] The rankings of each country were compared with those of every other country. The coefficients ranged from .352 (Italian versus West German rankings) to .916 (Belgian vs. U.K. rankings). Using .05 as the level of significance, r_s for only three sets of rankings was not significant. The Italian versus Danish (r_s = .424), Italian versus French (.481), and Italian versus West German (.352) comparisons did not correspond well. Interestingly, Italian firms are present in each of the three sets. Given the large number of comparisons, a general degree of correspondence appears to exist between the firms in each country regarding the relative importance of each factor.

The high ranking of depreciation deductions by U.K. firms is due in part to the transition rules associated with the repeal of the FYA. Firms indicated that they might change the timing of some acquisitions so that they fall within transition periods. The decision to acquire had been made, and the transition rule influenced the timing; thus, the timing rather than the initial acquisition decision had been affected.

Overall, the firms do not appear to consider many of these

[20] A pilot study indicated that order of presentation did not influence responses.
[21] M. G. Kendall and W. R. Buckland, *A Dictionary of Statistical Terms* (London: Hafner Publishing, 1971).

Exhibit 6. Importance Rating of Factors — Overall

Item	Belgium	Italy	Denmark	The Netherlands	France	The United Kingdom	West Germany
1. Current unrestricted funds on hand	10	14	7	11	4	10	4
2. Ability to raise funds via equity	11	13	8	10	10	14	5
3. Ability to raise funds via debt	7	7	6	7	2	7	7
4. Interest rates	6	3	5	6	5	4	8
5. Normal modernization plans	1	1	2	1	1	2	1
6. Current economic conditions	5	5	4	4	7	6	6
7. Expected changes in the economy	2	9	1	3	6	3	2
8. Inflation	14	10	9	13	11	12	13
9. Normal expansion plans	3	2	3	2	3	1	3
10. Expected changes in tax rates	12	12	11	12	13	9	12
11. Tax depreciation deductions	4	6	10	8	9	5	10
12. Tax credits for equipment acquisitions	8	8	13	9	8	8	9
13. Other tax laws	13	11	14	14	14	13	14
14. Government grants for fixed-asset projects	9	4	12	5	12	11	11

incentive provisions to have much relative importance in their decision making. Exhibit 7 reports a further exploration of this aspect. The exhibit contains the relative rankings by firm size. A review of the rankings for small and large firms within each country indicates general correspondence among the sets of rankings in most of the countries. Spearman's rank correlation coefficient was .363 for Belgian rankings, .658 for Italian rankings, .666 for French rankings, and .815, .837, .859, and .859, for the rankings of Denmark, West Germany, the Netherlands, and the United Kingdom, respectively. Only the r_s for the Belgian rankings is not significant at the .05 level.

Except for these few differences, the different-sized firms appear to be in general agreement as to the relative importance of each factor. Comparisons of rankings between the different-sized firms when classification was based on net income and capital expenditures produced similar results; only the Belgian rankings were not significant.

The overall low rankings of government incentives and the general agreement among different-sized firms provide additional evidence as to the ineffectiveness of these incentive provisions in influencing decision making. To obtain another perspective regarding tax laws, the responses to questions concerning the effects of recent and proposed tax changes were also analyzed.

Effects of Changes in Tax Laws

Exhibit 8 contains a summary of responses to questions regarding recent and proposed tax law changes, overall and by firm size within each country. Chi-square values (χ^2) are also presented in the exhibit. For overall responses, χ^2 ranged from 0.81 to 29.93. Only two values were not significant, 0.81 for the United Kingdom and 3.00 for Belgian firms. Although the Belgian χ^2 value is not significant, 75 percent of the responses were "no." Also, the U.K. value is low, in part, because of transition rules related to the FYA. Many affirmative respondents indicated that the transition rules might affect the timing of acquisitions. Thus, the higher proportion of "yes" responses (as compared to other countries) is not due to any stimulus aspect of the tax law.

In general, firm size did not affect respondents' answers; "no" responses far outweighed "yes" responses for both types of firms. Also, similar results were obtained when net income and capital expenditures were used to classify firms.

Recent law changes apparently have had little impact on firms' decision making. The large number of "no" responses provides a

Exhibit 7. Importance Rating of Factors — by Firm Size*

Item	Belgium		Italy		Denmark		The Netherlands		France		The United Kingdom		West Germany	
	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large
1. Current unrestricted funds on hand	4	12	13	14	6	7	7	13	1	6	7	12	6	3
2. Ability to raise funds via equity	12	10	12	13	7	9	10	11	8	12	14	14	7	5
3. Ability to raise funds via debt	11	3	8	5	9	4	8	5	2	3	9	8	8	6
4. Interest rates	5	8	4	2	5	5	6	7	7	4	6	4	5	10
5. Normal modernization plans	1	2	2	1	4	1	1	1	3	1	1	2	1	2
6. Current economic conditions	9	6	7	6	3	6	4	3	6	11	4	5	4	7
7. Expected changes in the economy	6	1	11	4	1	2	3	4	5	10	3	3	3	1
8. Inflation	13	13	10	7	10	8	13	12	9	13	12	9	13	13
9. Normal expansion plans	2	4	1	3	2	3	2	2	4	2	2	1	2	4
10. Expected changes in tax rates	14	9	14	11	11	11	12	10	12	9	11	7	12	12
11. Tax depreciation deductions	7	5	6	9	12	10	9	9	11	8	5	6	10	9
12. Tax credits for equipment acquisitions	8	7	5	10	13	12	11	8	10	7	8	10	9	11
13. Other tax laws	10	14	9	12	14	14	14	14	14	14	13	13	14	14
14. Government grants for fixed-asset projects	3	11	3	8	8	13	5	6	13	5	10	11	11	8

* Based on total assets.

Exhibit 8. Effects of Recent and Proposed Changes

Recent changes[a]	Overall			By firm size[b]				
				Small		Large		
	No	Yes	Chi-square	No	Yes	No	Yes	Chi-square
Belgium	9	3	3.00	3	2	6	1	3.77
Italy	14	1	11.27[c]	8	0	6	1	11.25[c]
Denmark	26	0	26.00[c]	13	0	13	0	26.00[c]
The Netherlands	26	5	12.94[c]	12	4	14	1	15.27[c]
France	15	5	5.00[c]	7	3	8	2	5.20[c]
United Kingdom	18	13	0.81	8	8	10	5	1.67
West Germany	35	5	29.93[c]	18	2	17	3	22.60[c]
Proposed changes[d]	**Overall**			**By firm size[b]**				
				Small		Large		
	No	Yes	Chi-square	No	Yes	No	Yes	Chi-square
Belgium	10	2	5.33[c]	4	1	6	1	5.37[c]
Italy	14	1	11.27[c]	8	0	6	1	11.57[c]
Denmark	25	1	22.15[c]	13	0	12	1	22.31[c]
The Netherlands	20	11	2.61	8	8	12	3	5.40[c]
France	15	5	5.00[c]	6	4	9	1	6.80[c]
The United Kingdom	30	1	27.12[c]	15	1	15	0	27.25[c]
West Germany	37	3	37.16[c]	18	2	19	1	29.00[c]

[a] See questions B. 2-1 of the questionnaire in the Appendix.
[b] Based on total assets.
[c] Significant @ ≤ .05.
[d] See questions B.2-2 of the questionnaire in the Appendix.

further indication of the ineffectiveness of government incentives (via tax measures) to stimulate corporate acquisitions of fixed assets.

Exhibit 8 indicates that firms in the Netherlands reported that many of the "yes" responses were due to the constant uncertainty as to the WIR. The government has consistently indicated that it might be repealed. Constant uncertainty affects planning, not necessarily the decision to acquire fixed assets but how to structure the acquisition so as to realize full benefits of WIR.

In only one instance was the number of "no" and "yes" responses equal for similar-sized firms. Responses from small firms in the Netherlands were equally divided. Regardless, all χ^2 values for small and large firms were significant. As with recent changes, proposed changes appear to have little impact on the firms, regardless of size or country.

The responses to all questions regarding the absolute and relative importance of the factors and the effects of tax law changes indicate that government incentive provisions designed to influence the corporate decision-making process with regard to fixed-asset acquistions are very ineffective. Clearly, a preponderance of evidence generally supports the theory that these types of supply-side stimulants do not cause the desired behavior; rather, they provide windfalls. They influence only how the acquisition is structured so that the firm can qualify for the benefits. This is not the intent of the provisions.

LIMITATIONS OF THE STUDY

The inherent nature of questionnaire studies presents several potential limitations. Concerns as to whether the sample is representative of the overall business community and whether the respondents are representative of the sample (nonresponse bias) must be addressed. The sample of firms was not intended to represent the overall business community. Because these firms have a large impact on the economy, they were the only firms of concern; whether smaller firms would react differently to government incentive provisions was not of concern in this study.

The nonresponse bias concern was previously addressed. As was indicated, nonresponse bias was apparently not a problem. The respondents appear to be representative of the sample. An additional concern is the interpretation of the responses. The responses represent corporate decision makers' perceived reactions to the incentive measures and perceived responses of the importance of the fourteen investment decision factors. Given the consistency of responses (with a preponderance of "no" responses) and the results of all tests, however, the responses appear to represent the firms' behavioral responses to the tax measures, as well as to the importance of the factors in the fixed asset investment decision.

SUMMARY AND CONCLUSION

The consistent results imply that government incentive provisions designed to influence supply-side behavior are not very effectual. But for a few exceptions, the different-sized firms in the seven countries indicated that these provisions were of little absolute or relative importance, yet all of the countries utilize these provisions with differences in technical or methodological application. Thus, a wide range of provisions has been considered in this study and all appear to be less effective than policymakers had presumed. A variety of measures — with high to lower tax rates, faster to slower write-offs, liberal NOL periods, credits, and grants — has been considered unimportant. Although the full spectrum of incentive measures has not been analyzed, many different variations were clearly involved. If essentially none of these measures is effectual, one must conclude that supply-side incentives, both existing and future variations, are not, and will not be, effective. Although they are used, they are not useful; they do not stimulate or cause the desired behavior; rather, they are windfalls.

Based on the results of this study, the author believes that it now seems timely for the governments of the EC countries to reduce their reliance on supply-side incentives; they must not change them in the hope that a different form will suddenly have a stimulant effect, but they probably should reduce and repeal them. Prime Minister Thatcher's decision not to support the English Channel Tunnel with grants (and, thus, not to use a supply-side incentive) was an excellent decision. In general, future policies of all EC governments should proceed in a similar manner.

If supply-side incentives are reduced or repealed, what should the governments do to stimulate corporate productivity and their economies? The more important factors were normal modernization and expansion plans. These factors are affected by and related to product demand. Firms will not modernize or expand if there is no demand for their products. As such, governments must further utilize demand-side factors (i.e., those that stimulate product demand). Measures that increase disposable income, such as reductions in individual tax rates, should be adopted.

The use of changing interest rates would also be effective. In general, interest rates were rated and ranked more highly than the incentive provisions. Government control of them would presumably have a greater impact on fixed-asset acquisitions than would a policy that provides for incentive provisions. Also, interest rate control should affect firms equally — it would be a more efficient (neutral) policy.

Reliance on government supply-side provisions appears to be inefficient and dysfunctional. Since they essentially do not appear to cause the desired behavior, the governments, economies, and society are negatively affected by these provisions. As these provisions are reduced, marginal firms may be forced to liquidate, but this is necessary and appropriate if a healthy economy is desired. In addition to reducing inefficiency and stimulating the economy, discontinuing the use of supply-side provisions could contribute to greater unity in the EC.

APPENDIX — QUESTIONNAIRE*

B.1. Please indicte the importance of each factor in your firm's *decision to acquire fixed assets;* use 1 to indicate very unimportant, 2 for unimportant, 3 for neither important nor unimportant, 4 for important, and 5 for very important. The items are (1) current unrestricted funds on hand, (2) ability to raise funds via equity, (3) ability to raise funds via debt, (4) interest rates, (5) normal modernization, (6) current economic conditions, (7) expected changes in the economy, (8) inflation, (9) normal expansion plans, (10) expected changes in tax rates, (11) tax depreciation deductions, (12) tax credits for equipment acquisitions, (13) other tax laws, and (14) government grants for fixed-asset projects.

B.2. Please indicate the appropriate answers, no or yes (if yes, please list specific changes).
1. Have any recent changes in tax laws affected your decision to acquire fixed assets?
2. Have any proposed changes in tax laws affected your decision to acquire fixed assets?
C. Regarding your firm's *decision to acquire fixed assets,* please rank the following items in overall importance from 1 to 14, with 1 being the most important and 14 the least important. Each item can be given only one ranking and each item must be ranked differently. *Items:* (1) current unrestricted funds on hand, (2) ability to raise funds via equity, (3) ability to raise funds via debt, (4) interest rates, (5) normal modernization plans, (6) current economic conditions, (7) expected changes in the economy, (8) inflation, (9) normal expansion plans, (10) expected changes in tax rates, (11) tax depreciation deductions, (12) tax credits for equipment acquisitions, (13) other tax laws, and (14) government grants for fixed-asset projects.

If you would like a copy of the results of the study, please indicate your address.

* The questionnaire was mailed on October 8, 1985; a second mailing was sent one month later on November 8, 1985.

The Controversial Development of the Deprival Issue Value Concept

ROBERT BLOOM and ARAYA DEBESSAY*

Statement No. 33, "Financial Reporting and Changing Prices" issued by the Financial Accounting Standards Board (FASB) in 1979, calls for the use of supplemental data for the current cost or materially and permanently lower recoverable amounts in the valuation of inventory and property, plant, and equipment. This pronouncement and others on the subject of accounting for changing prices invokes the concept of "deprival value," or "value to the business," a concept that is not well defined, explained, or justified.

Section 4510 (par. 36) of the Canadian *Handbook,* which recommends the application of deprival valuation, contains the following statement:

> In those situations when the recoverable amount for a group of related assets is judged to be materially and permanently below current cost, recoverable amount would be used as the relevant measure for the assets and the associated expenses arising on sale or use. Recoverable amount for an individual asset need only be considered when that asset is used independently of other assets.

In the discussion of the rationale for lower of current cost and recovery amount, the Canadian pronouncement asserts in paragraph A.27 that such measures are surrogates for the present value of cash flows from the use of the assets in question.

> Current costs might be expected to bear some relationship to present values because the estimated present value of future net cash flows would

* Robert Bloom is Professor of Accounting, John Carroll University.
Araya Debessay is Associate Professor of Accounting, the University of Delaware.

represent the maximum amount that an enterprise would be willing to pay to acquire an asset. . . . Measurements of assets at their recoverable amounts represent more direct estimates of the present value of future net cash flows than do current costs.

Neither Section 4510 of the Canadian *Handbook* nor Statement No. 33 gives explicit consideration to the implications of the use of this decision rule, which appears to emanate from the British Sandilands' Report (1975),[1] which in turn was derived from Bonbright.[2] As Bonbright observed:

The value of a property to its owner is identical in amount with the adverse value of the entire loss, direct and indirect, that the owner might expect to suffer if he were to be deprived of the property.

The present paper examines the evolutionary development of the concept of deprival value and the controversial nature of this concept, which underlies all of the recent pronouncements on accounting for changing prices in the United States and the British Commonwealth countries, including Britain, Canada, New Zealand, and Australia. This concept has not been adequately justified in any of these pronouncements. Furthermore, this paper contends that the concept of deprival value had appeared in few authoritative accounting pronouncements prior to the publication of the recent standards and proposed standards on dealing with the effects of changing prices.

BACKGROUND

Definitions

Deprival value concerns current cost or current replacement cost, present value, and net realizable value. Each of these terms is defined. According to Statement No. 33, Appendix C (par. 99c), the *current cost* is "the cost of replacing the service potential of the asset owned," whereas *current replacement cost* is

the amount of cash (or its equivalent) that would have to be paid to acquire currently the best asset available to undertake the function of the asset owned (less depreciation or amortization if appropriate).

The present value of cash flows produced by an asset (or group of assets) is the discounted value of the expected stream of cash flows from the asset using a risk-adjusted discount rate. According to Statement No. 33 (par. 63a), net realizable value, which constitutes an exit value, represents

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[1] Inflation Accounting Committee, *Inflation Accounting* (London: Her Majesty's Stationery Office, 1975).

[2] J. C. Bonbright, *The Valuation of Property*, vol. 1 (New York: McGraw-Hill, 1937).

the amount of cash, or its equivalent, expected to be derived from sale of an asset net of costs required to be incurred as a result of the sale. It should be considered as a measurement of an asset only when the asset concerned is about to be sold.

Previous Literature

Paton. In 1918, Paton discussed the basic ideas of current cost accounting,[3] which were subsequently expanded by Edwards and Bell. Paton complimented Middleditch on this general price-level approach and emphasized that Middleditch's approach was only a means to deal with the measurement unit problem in financial reporting. Paton was essentially concerned with the objective of providing relevant information for decision making, and, as such, he argued that *specific,* as opposed to general, price changes should be made in accounting. Such views were reflected in his coauthored *Principles of Accounting* book.[4] Zeff has characterized Paton to be quite possibly the first principal American accounting author who argued strongly in favor of current values as opposed to historical costs.[5] Paton's writings on this subject were, however, not as comprehensive as those of Schmidt,[6] who developed a current cost accounting model in Germany in the early 1920s.

Schmidt. In 1921, Schmidt proposed a replacement cost accounting model in Germany. His works did not appear in U.S. journals until the 1930s.[7] Because he was writing at a time when Germany was suffering from severe inflation, Schmidt recommended the valuation of assets and liabilities, cost of sales, and depreciation using current replacement costs. He also advocated the separation of holding gains from operating income, an idea that Edwards and

[3] W. A. Paton, "The Significance and Treatment of Appreciation in the Accounts," in *Asset Appreciation Business Income and Price Level Accounting: 1918–1935,* ed. S. A. Zeff (New York: Arno Press, 1976), 35–49.

[4] W. A. Paton and R. A. Stevenson, *Principles of Accounting* (Ann Arbor, Mich.; University of Michigan, 1918), 461.

[5] S. A. Zeff, "Episodes in the Progression of Price Level Accounting in the United States," in *Contemporary Studies in the Evolution of Accounting Thought,* ed. M. Chatfield (Belmont, Calif.: Dickenson, 1968), 7.

[6] R. Mattessich, "On the Evolution of Inflation Accounting with a Comparison of Seven Major Models" (Working paper: University of British Columbia, Vancouver, 1981), 4.

[7] See F. Schmidt, "The Basis of Depreciation Charges, *Harvard Business Review* (April 1930), 257–64; "The Impact of Replacement Value," *Accounting Review* (September 1930), 235–42; and "Is Appreciation Profit?" *Accounting Review* (December 1931), 289–93. Also, for a detailed analysis of Schmidt's contributions to the history of inflation accounting thought, see Mattessich, "Inflation Accounting," and G. Whittington, "The Role of Research in Setting Accounting Standards: The Case of Inflation Accounting" (Department of Economics, University of Bristol, Bristol, England, November 1981).

Bell recommended in 1961. Schmidt favored the reporting of holding gains in a stockholders' equity reserve, however, rather than in the income statement, ignoring holding gains from monetary items.[8] The current operating income concept proposed by Edwards and Bell, which is the current cost version of income from continuing operations in Statement No. 33, and the current operating profit concept proposed by the British Sandilands Committee, appear to stem from Schmidt's income concept.

Limperg. In the 1920s, Limperg developed current replacement accounting. As a result of his work (replacement cost procedures were adopted by some large and successful companies, such as Philips Industries in the Netherlands). That country has been identified with this model since its development. Limperg developed his ideas from Schmidt. Schmidt's replacement cost was based, however, on the idea of physical replacement, whereas Limperg advocated replacement value, a concept akin to the value to the owner concept, which is also reflected in Statement No. 33, as well as in Britain's pronouncement on accounting for changing prices — Statement of Standard Accounting Procedure (SSAP) No. 16, as well as other pronouncements on accounting for changing prices.[9] Limperg's replacement value concept was further developed by Bonbright, an American academician who formulated the concept of deprival value.[10]

Limperg developed a dual concept of value; to him, the lower of replacement value or sales value represented a measure of the significance of the asset to the owner.[11] Limperg's sales value seems to correspond to Bonbright's lower limit of deprival value, and the former's replacement value corresponds to the latter's upper limit.

Bonbright. He also considered the legal principle of indemnity, which concerns a concept of value that closely associates the worth of property with the owner's loss from deprivation.[12] Bonbright

[8] See Mattessich, "Inflation Accounting," 3.
[9] Bonbright, *Valuation of Property.*
[10] Financial Accounting Standards Board, *Statement of Financial Accounting Standards No. 33: Financial Reporting and Changing Prices* (Stamford, Conn.: FASB, September 1979); and Accounting Standards Committee, *Statement of Standard Accounting Practice, No. 16, Current Cost Accounting (SSAP 16)* (London: ASC, March 1930).
[11] A. Mey, "Theodore Limperg and His Theory of Values and Costs," *Abacus* (January 1966), 6.
[12] Bonbright, *Valuation of Property,* 271.

emphasized the value to a specific owner. To him, deprival value was the minimum loss that could not be avoided if one were to be deprived of specific property.

Previous Literature Emphasizing Values Inherent in Deprival Valuation

The following writers emphasized one or more values inherent in deprival valuation but did not actually recommend deprival valuation per se.

Canning. Bonbright may well have been influenced by Canning, who asserted:

> Valuation should be dependent solely upon the contemplated use of the valued thing in the operations of the enterprise. [This] valuation [which he calls "going concern valuation"] . . . would be most significant and useful to the owner or prospective owner of the valued thing in the condition or circumstances in which it is held.[13]

Canning, an economist, attempted to infuse economic theory into accounting theory in his book *The Economics of Accountancy.*[14] He advocated the application of discounted future cash flows in the valuation of nonmonetary assets but acknowledged that such a valuation basis was difficult to implement. Instead, he "proposed a method of indirect valuation by which an asset would be assessed at the *current cost* to reacquire by the least costly means."[15] Canning contended that if direct values are infeasible, indirect valuation bases are justifiable. He was critical of conventional historical cost accounting, but his ideas were too radical for his time. In a brief description of Canning's book, Vancil and Weil assert: "If the profession had followed the principles set forth in this important book, we would have had a form of current value accounting long before now."[16]

Sweeney. Although he is generally known for his path-breaking work on historical cost/constant dollar accounting, he expressed his preference for replacement cost in lieu of historical cost data. In a 1933 article, Sweeney said, " . . . As a valuation base, replacement or reproduction cost must be judged both theoretically

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[13] J. B. Canning, *The Economics of Accountancy* (New York: Ronald Press, 1929), 187–218.
[14] Ibid.
[15] For an in-depth analysis of Canning's work, see the American Accounting Association Committee on Concepts and Standards for External Financial Reports, *Statement of Accounting Theory and Theory Acceptance* (Sarasota, Fla.: AAA, 1977), 8.
[16] R. F. Vancil and R. L. Weil, *Replacement Cost Accounting: Readings on Concepts, Uses and Methods* (Glen Ridge, N. J.: Thomas Horton and Daughters, 1976), 7.

sounder and practically more desirable than actual original cost."[17] In *Stabilized Accounting* in 1934, he discussed the merits of replacement cost and provided an example on how to adjust replacement cost for constant dollars. Sweeney was influenced by Schmidt's work and he expanded Schmidt's version in proposing the current cost/constant dollar model (i.e., general price-level adjusted current cost data).

MacNeal. A critic of historical cost accounting, MacNeal called for "economic values" rather than historical costs. His 1939 book *Truth in Accounting*[18] remained obscure for many years. He argued: "The economic value of anything is its 'power in exchange' which, measured in money, is its market price. The market price of a thing is the price at which it is actually being bought and sold."[19] Where markets are not available for particular assets, MacNeal called for the use of surrogates, such as replacement costs for nonmarketable and reproducible assets.[20] He advocated original cost as a proxy for nonmarketable and nonreproducible assets, such as patents, copyrights, mines, and oil wells.[21]

MacNeal's income statement consisted of two sections. The "current" section provides the category net profit from business operations, which contains the unrealized increases and decreases in the market price or replacement cost of current asset items, such as inventories, raw materials, work in process, and finished goods, during the period. The other section of MacNeal's income statement contains the gains and losses on noncurrent assets resulting in net capital profit, which is credited to capital surplus.[22] MacNeal's proposed balance sheet reflects the assets of the firm at their economic values or surrogates, and liabilities at their face values.[23] His work was criticized at the time by both professional and academic accountants,[24] although his multiple value recommendations were adopted by subsequent writers on the subject.

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[17] H. W. Sweeney, "Capital," *Accounting Review* (September 1933), 185–99; also reproduced in Zeff, *Business Income and Price Level Accounting*.
[18] K. MacNeal, *Truth in Accounting* (Philadelphia: University of Pennsylvania, 1939; reprinted by Scholars Books, 1970).
[19] Ibid., 87.
[20] Ibid., 186.
[21] Ibid., 188.
[22] Ibid., for a suggested format of an income statement recommended by MacNeal.
[23] Ibid., 280, 288.
[24] For a discussion of the criticisms of MacNeal, see S. A. Zeff, "Truth in Accounting: The Ordeal of Kenneth MacNeal," *Accounting Review* (July 1982), 540–43. Nevertheless, it should be emphasized that Rorem supported exit valuation where the value of the assets in question falls below that of current replacement

Edwards and Bell. *The Theory and Measurement of Business Income*[25] by Edwards and Bell has been the principal work on current cost accounting. Their concept of *current cost*[26] is defined as the cost of purchasing assets identical to those the firm possesses,[27] which is also the definition of current cost later included in Statement No. 33. In the view of Edwards and Bell, holding gains and losses arising from the adjustment of physical assets to their current costs should be reported as part of the total business income, but they should be reported separately from current operating income. They argue that reporting holding gains separately in the income statement is an important contribution in evaluating the performance of management. This view was criticized by Drake and Dopuch, among others,[28] who contended that it is difficult to distinguish between operating and speculative decisions of management; accordingly, operating and holding gains should be viewed as interdependent. Still another view, espoused by Gynther,[29] is to treat holding gains as capital maintenance adjustments, not as income, on the reasoning that such adjustments are needed to allow for the cost to replace the assets consumed; as such they are not distributable without impairing the productive capacity of the firm.

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cost. See C. Rorem, "Replacement Costs in Accounting Valuation, *Accounting Review* (September 1929), 167–74. Canning also called for exit values with respect to inventories, for example. See Canning, *Economics of Accountancy* and AAA, *Statement of Accounting Theory.*

[25] E. O. Edwards and P. W. Bell, *The Theory and Measurement of Business Income* (Berkeley, Calif.: University of California Press, 1967).

[26] As Revsine observes: "Replacement cost, according to Edwards and Bell (E&B), was to be measured by using the current cost of the assets actually owned, even in the face of technological change. By contrast in implementing Accounting Series Release No. 190, the Securities and Exchange Commission (SEC) . . . rejected their approach. The SEC instead required that replacement cost be measured by reference to the latest available technology — even though the firm may not own these latest-technology assets. The SEC's more cumbersome approach was motivated, in part, by the belief that used asset prices do not impound technological change. E&B provide a terse argument to the contrary. . . . Subsequent analytics indicate that, under ideal conditions, the two approaches will often generate equivalent signals except that the E&B approach has the advantage of being less susceptible to measurement error . . . . The FASB (1979) subsequently concurred with the original E&B approach to technological change." See L. Revsine, "The Theory and Measurement of Business Income: A Review Article," *Accounting Review* (April 1981), 342–54.

[27] See Edwards and Bell, *Theory and Measurement,* 79.

[28] See D. F. Drake and N. Dopuch, "On the Case for Dichotomizing Income," *Journal of Accounting Research* (Autumn 1965), 192–205; P. Prakash and S. Sunder, "The Case against Separation of Current Operating Profit and Holding Gains," *Accounting Review* (January 1979), 1–22; and R. Samuelson, "Should Replacement-Cost Changes Be Included in Income?" *Accounting Review* (April 1980), 254–68.

[29] R. S. Gynther, *Accounting for Price-Level Changes* (London: Pergamon Press, 1966).

Statement No. 33 requires reflecting holding gains and losses from inventories, property, plant, and equipment net of the constant dollar adjustment that produces a fictitious or illusory gain or loss. Such net holding gains and losses appear in the income statement but are not included in the income reporting continuing operations, thus echoing the position of Edwards and Bell on this matter.

Sprouse and Moonitz. They prepared *Accounting Research Study No. 3,* "A Tentative Set of Broad Accounting Principles for Business Enterprises."[30] It was praised by some academic accountants for advocating the use of current replacement and net realizable values but was sharply criticized by professional accountants. The Accounting Principles Board asserted that the recommendations of Sprouse and Moonitz were "too radically different . . . for acceptance at this time."[31] Sprouse and Moonitz called for measurement methods that included discounted present values for readily salable inventories, and replacement costs for other inventories and tangible fixed assets. They rejected the realization principle for lacking "analytical precision." To demonstrate the impact of general price-level increases on the dollar as a measurement unit, Sprouse and Moonitz favored general price-level adjustments, although their study did not devote much attention to this issue because, apparently, another study (Accounting Research Study No. 6) was then in progress to explore the general price-level problem.[32]

Exit value accounting. Chambers is the best-known advocate of exit value or exit price accounting and has been writing on this subject since the 1960s. In the 1970s, Sterling also began to advocate exit valuation. Proponents of exit value accounting contend that the relevant attribute to be reported is the amount of cash that could be currently obtained by selling an asset under conditions of orderly liquidation. Exit values reflect the firm's ability to adapt to a changing environment and thus represent measures of the firm's opportunity costs.

Chambers refers to his current value accounting system as "continuously contemporary accounting" because all reported balances on a given date are contemporary. Recognizing the problems introduced by purchasing power gains and losses arising from holding monetary items, Chambers recommends that such gains

[30] R. T. Sprouse and M. Moonitz, *Accounting Research Study No. 3,* "A Tentative Set of Broad Accounting Principles" (New York: American Institute of Certified Public Accountants, 1962).
[31] See Vancil and Weil, *Replacement Cost Accounting,* 13.
[32] See Sprouse and Moonitz, 18.

and losses be reflected as adjustments to beginning stockholders' equity.[33] To Sterling,[34] the relevant attribute that should be measured and communicated is "command over goods" since it reflects both general and specific price changes. Although the exit value balance sheet reflects command over goods (i.e., the number of physical goods commanded in the market), the exit value income statement should be adjusted for general price-level changes to provide results that reflect command over goods.

THE DEPRIVAL CONCEPT IN RECENT LITERATURE

Baxter has characterized deprival value using the following example:

> If a thief threatens to make off with one of your assets, but offers to refrain if you pay enough, what is the highest sum that he can prise [take] from you? Usually your ceiling will be replacement cost — i.e., this is . . . deprival value. But sometimes you will stick at a lower figure, because you do not deem the asset worth replacing; here the lower figure takes over as deprival value.[35]

Thus, deprival value is an opportunity cost (i.e., a foregone value).

The Task Force on the Conceptual Framework of the American Institue of Certified Public Accountants has included deprival value in one of its four experimental financial-reporting models (Model C).[36] This model assumes that management's intended use of the assets should be considered in its valuation. The deprival value of the asset is "the amount by which the business would be poorer if it were suddenly deprived of the asset at the balance sheet date."

The six valuation cases implicit in the deprival value concept and the implications[37] of each are presented in Exhibit 1.

Statement No. 33 calls for the application of deprival value in financial reporting disclosures, as do all other recent pronounce-

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[33] For a complete description of continuously contemporary accounting (CoCoA), see R. J. Chambers, *Accounting for Inflation: Methods and Problems* (Sydney: Department of Accounting of the University of Sydney, Australia, 1975). This book contains Chambers' views as to why he believes that CoCoA is superior to other accounting models.

[34] R. R. Sterling, "Relevant Financial Reporting in An Age of Price Changes," *Journal of Accountancy* (February 1975), 42–51.

[35] W. T. Baxter, *Accounting Values and Inflation* (London: McGraw-Hill, 1975), 126.

[36] Task Force on the Conceptual Framework for Accounting and Reporting, *The Accounting Response to Changing Prices: Experimentation with Four Models* (New York: American Institute of Certified Public Accountants, 1979), 31–40.

[37] R. Bloom and A. Debessay, "A Critique of FAS No. 33," *Management Accounting* (May 1981), 49–53.

Exhibit 1. Six Valuation Cases

Valuation cases	Presumed course of action and implication
(1) PV* > NRV > *CC*†	Replace to use; it may well be unlikely for NRV to exceed CC
(2) CC > *PV* > NRV‡	Use until the asset is worn out; do not replace it
(3) CC > *NRV* > PV	Sell; the firm, or its assets or asset, seems ready for liquidation
(4) PV > *CC* > NRV	Replace to use
(5) NRV > *CC* > PV	Replace to sell, which seems unrealistic
(6) NRV > PV > *CC*	Replace to sell, which seems unrealistic

* PV = Value in use
† CC = Current cost
‡ NRV = Net realizable value (current replacement cost or historical cost/constant dollar may replace CC in conformity with Statement No. 33).

ments and proposals on accounting for changing prices in Britain,[38] Canada,[39] New Zealand,[40] and Australia.[41] In particular, Statement No. 33 requires permanent and material write-downs from current cost of inventories, property, plant, and equipment to be reflected in the holding gains and losses rather than in current cost income from continuing operations. Furthermore, Statement No. 33 calls for permanent and material write-downs from historical cost/constant dollar (HC/CD) figures for inventories, property, plant, and equipment to be shown in the HC/CD income from continuing operations. Write-downs from either current cost or HC/CD for cost of goods sold, depreciation, and amortization expenses are to be reflected in income from continuing operations. Since Statement No. 82 has eliminated the HC/CD information as long as current cost/constant dollar information is provided,[42] however, deprival value is not required to be applied to HC/CD data.

All of the valuation methods underlying deprival value, especially present valuation, are subjective in varying degrees. Even historical

[38] FASB, *Statement No. 33.*
[39] "Section 4510: Reporting the Effects of Changing Prices," *CICA Handbook* (Toronto: Canadian Institute of Chartered Accountants, 1982).
[40] Current Cost Accounting Standards Committee, CCA-1 (New Zealand, 1982).
[41] Institute of Chartered Accountants in Australia and Australian Society of Accountants, *Proposed Statement of Accounting Standards: Current Cost Accounting* (Sydney, Australia: ICAA and ASA, 1982).
[42] Financial Accounting Standards Board, *Statement of Financial Accounting Standards No. 82:* "Financial Reporting and Changing Prices: Elimination of Certain Disclosures. An Amendment of FAS 33" (Stamford, Conn.: FASB, 1984).

cost is not purely factual, however, and it is not always independently verifiable. Subjectivity prevails in conventional financial reporting in all too many measurements. Additionally, it is unclear whether the concept of deprival value applies to individual assets or asset groups. If applicable to groups, what of the problem of synergistic cash flows from using assets jointly? How should one disentangle these cash flows for financial reporting purposes?

As Ma observes:

> Management's expectations of future flows from current operations are a function of the economic climate. Even assuming a stable relationship exists between market entry and exit prices, the adoption of the value to the owner concept can introduce considerable variability in the valuation base underlying asset measurement when business optimism fluctuates, with consequential effects on the dependent income figure. We do not reject the variability in asset measurement and income determination per se, although we question the usefulness of a valuation concept whose adoption can lead to reports on downturns and upswings in operating results being magnified in response to changes in the level of business optimism.[43]

No consideration is given to time lags between actions (e.g., buy or sell an asset) in the deprival value concept. Deprival value assumes rationality, but it does not indicate when the course(s) of action should be taken.[44]

McDonald objects to deprival value because, in his view, value to the owner and deprival value are different concepts. Value to the owner, in his opinion, is the present value; deprival value applies to the owner who has lost an asset and seeks to measure the loss. Deprival value does not, according to McDonald, apply to assets owned.[45]

Lee's objection to the concept reflects the nonhomogeneous balance sheet values that would result from its application.[46] The balance sheet, he states, would be an amalgam of too many different values and thus difficult to interpret. Nevertheless, the present authors emphasize that the balance sheet would also reflect current values; even the conventional balance sheet consists of nonhomogeneous balances.

Chambers objects to the concept of deprival value because it

[43] R. Ma, "Value to the Owner Revisited," *Abacus* (December 1976), 162.
[44] P. T. Wanless, "Reflections on Asset Valuation and Value to the Firm," *Abacus* (December 1974), 160–64.
[45] G. McDonald, "Deprival Value: Its Use and Abuse," *Accounting and Business Research* (Autumn 1974).
[46] T. A. Lee, "Sandilands and Users Comprehension," *Journal of Business Finance and Accounting* (Spring 1976), 89.

does not provide categorical guidelines for valuation.[47] The concept is too ambiguous in Chambers' view; he advocates net realizable values:

If one element of financial position is the capacity of a firm to buy goods, pay debts, and so on at a stated date, then the net realizable value of nonmonetary assets is the appropriate basis of valuation of all assets. The only proper place for any statement of replacement cost is as a footnote indicative, not of present assets, but of a present tentative commitment to a future outlay; and that is more like a contingent liability than an asset.[48]

Deprival value mixes a principal (present value) with two of its surrogates, current (replacement) cost and net realizable value. Agrawal notes this fallacy involved in finding the deprival value.

On the one hand it is being asserted that it is not easy to determine the present value of net receipts. Because of this difficulty, a surrogate needs to be used. But then it is being stated that the surrogate itself requires the determination of the present value of the net receipts as an essential part of its computation. Thus the argument seems to run as follows:
(i) First determine the real value.
(ii) Then use the real value in the computation of a surrogate.
(iii) Finally, use the surrogate as an approximation of the real value.[49]

Deprival valuation is intended to determine whether the owner should buy, use, or sell the asset(s) in question. According to Statement No. 33, however, the use of either net realizable value or present value as the lower recoverable amount is determined beforehand by the owner's decision to sell the asset immediately or to continue to use it, respectively. As Agrawal observes:

This modification seems to go contrary to the basic reasoning for using the deprival value. The underlying assumption . . . is that we are trying to determine the maximum loss the owner will suffer if the asset has been lost. After . . . such deprival, the owner must decide that if he still had the asset, what would have been rational to him — to sell the asset . . . or to continue using it; only after getting the pertinent data about the net realizable value and present value could he have made a rational decision. If we are assuming instead that the owner could have made the decision without comparing these two figures, then we are treating him as irrational.[50]

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[47] R. J. Chambers, "Value to the Business," in *Current Cost Accounting: Identifying the Issues,* ed. G. Dean and M. Wells, 2nd ed. (Universities of Lancaster, England, and Sydney Australia, 1979).
[48] Ibid., 111.
[49] S. Agrawal, "Use of 'Recoverable Amounts' in the Valuations Required under FASB No. 33" (Presentation at the Southeastern Regional Meeting, American Accounting Association, April 1983), 6–7.
[50] Ibid., 5–6.

Accordingly, whether the concept of deprival value can be feasibly implemented is open to question.

The Australian proposed statement on current cost accounting,[51] in contrast to the American, British, and Canadian statements, is more explicit with regard to recoverable amount. As R. S. Gynther, formerly national research director of Coopers & Lybrand in Australia, maintains:

> . . . The Australian definition is the only one that covers the situation where it is the intention to employ an asset for (say) two years and then sell it. *Both* the future cash flows from use and the estimated eventual selling value need to be included in "Recoverable Amount" in such a case. . . . In such cases *both* the cash flows from its use and its established sale value would need to be discounted.
>
> For example, para. 63.a. of [Statement No.] 33 says that "Net Realizable Value" is relevant, "only when the asset concerned *is about* to be sold." [Para.] 63.b. says that "Value in use" is the NPV of "future cash flows expected to be derived *from the use* of an asset." Neither of these include [*sic*] the expected selling value *after* a period of use.[52]

Statement No. 33 calls for the use of historical cost/constant dollar (HC/CD) data in deprival valuation where such data are used in lieu of current cost. The FASB does not clearly indicte why HC/CD data should be considered in deprival valuation,[53] however — perhaps because they may be considered as surrogates of current cost data. Additionally, no other authoritative pronouncement in this country or abroad calls for the inclusion of HC/CD data in deprival valuation. Moreover, the authors believe that the use of historical cost/constant dollar accounting in deprival value has never before been advocated in accounting literature.

The FASB's *Invitation to Comment* on Statement No. 33 suggested that one possible modification of this statement is to provide additional guidance in estimating deprival value or to eliminate the deprival value provision.[54] Few firms have applied this provision with the exception of utilities, however, presumably because the estimations are extremely difficult.

CONCLUSION

Deprival value is a concept that has in the last decade received new attention in light of the international flurry of interest in the development of accounting pronouncements to deal with the

[51] Institute of Chartered Accountants in Australia and the Australian Society of Accountants, *Proposed Statement of Accounting Standards.*

[52] R. S. Gynther, correspondence with the authors (22 April 1985).

[53] Agrawal, "Use of 'Recoverable Amounts.' "

[54] Financial Accounting Standards Board, *Invitation to Comment on the Need for Research on Financial Reporting and Changing Prices* (Stamford, Conn.: June 1981).

problems of changing prices. Nevertheless, deprival value has neither been adequately explained nor justified in such pronouncements, although this concept underlies the American, British, Canadian, and N.Z. standards, as well as the proposed Australian standard, on accounting for changing prices. Perhaps the primary reason for the inclusion of provisions dealing with deprival value in those recent pronouncements, although not stated, is that it is to current value accounting as the lower of cost or market value is to historical cost accounting. Stated differently, deprival value is a conservative method of valuation intended to prevent overstatement of asset values. Moreover, deprival valuation provides a logical, selective means to choose the most significant value of an asset or group of assets according to the underlying circumstances facing the firm. A controversial concept, deprival value is difficult to apply and implement in view of the measurement problems it presents.

On September 30, 1986, the FASB approved an exposure draft (i.e., a proposed standard) that would render voluntary the current reporting requirements to furnish supplemental disclosures on changing prices. This statement is to replace Statement No. 33 in 1987.[55] The information required in Statement No. 33 has not been widely used, and many have complained that the costs of its application outweigh the benefits.[56]

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[55] Financial Accounting Standards Board, *Status Report No. 179* (3 October 1986), 1.
[56] Ibid.

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[1] William A. Dymsza, Multinational Business Strategy (New York: McGraw-Hill, 1972), 49-53.
[2] Geoffrey Holmes, "Replacement Value Accounting," Accountancy (March 1972), 4-8.

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Leonard Lorensen and Paul Rosenfield. "Management Information and Foreign Inflation." Journal of Accountancy, December 1974, 98–102.

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Contents

Environmental Factors, Transaction Costs, and External Reporting: A Cross-National Comparison

JAMIE PRATT and GIORGIO BEHR*

A number of writers have attempted to explain differences in accounting standards and practices across countries in terms of environmental characteristics.[1] Others have clustered nations on the basis of their reporting practices and have attempted to relate these clusters to environmental variables.[2] Although such research

* Jamie Pratt is Associate Professor of Accounting at the University of Washington. Giorgio Behr is an International Consultant.

The authors express their gratitude to Professors E. Kilgus and R. Volkart of the Banking Institute at the University of Zurich for their help and support. Valuable comments were also provided by Dave Burgstahler, Michael Sherer, John Arnold, Eric Noreen, Tom Johnson, Lauren Kelly, Michel Lebas, Zelma Rebman-Huber, Thomas Schmitt, Frank Selto, and members of the accounting workshops at the Universities of Manchester, Oregon, British Columbia, Washington, and Colorado and at the London School of Economics, as well as several anonymous reviewers. Financial support for this project was provided by Fides Auditing and Credit Suisse Bank.

[1] F.D.S. Choi, "European Disclosure: The Competitive Disclosure Hypothesis," *Journal of International Business Studies* (Fall 1974), 15–23; American Accounting Association, "Report of the Committee on International Accounting" (New York: AAA, 1976); F.D.S. Choi and G. G. Mueller, *International Accounting* (Englewood Cliffs, N.J.: Prentice-Hall, 1984); G. Schieneman, "International Accounting: Issues and Perspective," *Journal of Accounting, Auditing and Finance* (Fall 1979), 21–30; C. Nobes and R. Parker, eds., *Comparative International Accounting* (Oxford, England: Phillip Allan, 1981); and J. Turner, "International Harmonization: A Professional Goal," *Journal of Accountancy* (January 1983), 58–66.

[2] C. Nobes, "A Judgemental International Classification of Financial Reporting Practices," *Journal of Business, Finance and Accounting*, 10, *1* (1983), (1–19; P. Goodrich, "A Typology of International Accounting Principles and Policies," *AUTA Review* (1982); W. Frank, "An Empirical Analysis of International Accounting

has provided new ideas on the subject, explaining international accounting differences in terms of an underlying theory that links these environmental characteristics to reporting regulations or practices has received little attention.

This paper attempts to explain external reporting systems in terms of the costs of transactions in capital markets. In short, the authors suggest that executing a capital exchange is costly to the parties involved because such transactions are based on incomplete and asymmetrically distributed information. Transacting parties such as market participants invest in external reporting systems because these systems reduce transaction costs by inducing managers to provide unbiased reports.[3] The creation, implementation, and maintenance of a reporting system is also costly, however, suggesting, in turn, that by investing in reporting systems, market participants are essentially substituting the costs of the reporting system for the transaction costs associated with incomplete and asymmetric information. Transacting will be efficient if such substitution occurs at the point that the cost margin of the reporting system equals the reduction margin in transaction costs.

This paper further proposes that certain environmental factors underlie the substitution rate between reporting system costs and transaction costs and that these factors vary across capital markets. These environmental factors include the number and complexity of the transactions executed in a given capital market, the dispersion of the participants within that market, the ratio of managers to owners, and the opportunism of the market participants. As developed later, the framework reported here suggests that capital markets characterized by a small number of relatively simple transactions; centralized, nonopportunistic participants; and a high manager/owner ratio induce a smaller investment in the reporting system than markets containing a large number of complex transactions, widely dispersed, opportunistic participants, and a more nearly equal manager/owner ratio.

This framework is illustrated by using it to explain differences in the reporting systems of two countries, the United States and Switzerland. An examination of the costs of transactions with these two reporting jurisdictions leads to identification of several envi-

Practices," *Journal of Accounting Research* (Autumn 1979), 593–605; R. Nair and W. Frank, "The Impact of Disclosure and Measurement Practices on International Accounting Classifications," *Accounting Review* (July 1980), 426–50; and R. Da Costa, J. Bourgeois, and W. Lawson, "A Classification of International Financial Accounting Practices," *International Journal of Accounting* (Spring 1978), 73–85.

[3] The definition of "unbiased," as explained later, is provided by a consensus agreement among capital market participants.

ronmental factors that help to explain why different systems of external reporting have evolved in the two countries. Essentially, the authors explain how transacting parties in two very different capital markets have acted to reduce transaction costs by developing two very different reporting systems.

The United States and Switzerland were chosen for this study because both countries (1) exist in the "Western cultural sphere," (2) operate in a free market, capitalistic economy, (3) are governed by a democratic political system, (4) are relatively industrialized, and (5) enjoy high standards of living. More important, however, are two essential differences in the two countries. The U.S. external reporting system provides a clear example of the "Anglo-American" system, which focuses on full disclosure and fair valuation; this system is designed primarily to provide useful information to shareholders. Switzerland, on the other hand, maintains an extreme version of the "Franco-German" system, which emphasizes creditors, tax regulations, and extreme conservatism; under this system, information is often intentionally withheld from shareholders.[4] Further, the capital markets operating in the United States are far more developed than are those operating in Switzerland.

The examination described here was limited to a relatively comprehensive comparison of two reporting jurisdictions rather than to a broader, perhaps more generalizable, multinational analysis. This strategy was chosen, not because the contribution of the analysis is in terms of its ability to document empirically environmental variables capable of explaining reporting differences across countries, but because the analysis is an attempt to explain the process underlying the relevancy of environmental variables to efficient transactions in capital markets, with particular emphasis on the role of external reporting systems. An in-depth comparison of two environments, differing significantly in terms of their reporting systems and their capital markets, can provide rich insights to such issues.[5]

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[4] Nobes and Parker, *Comparative International Accounting.*

[5] For illustrative discussions of the strengths of field research, see T. Bonoma and K. Wong, "A Case Study in Case Research" (Working paper, Harvard Business School, 1984); C. Geertz, *The Interpretation of Cultures* (New York: Basic Books, 1973); M. Miles, "Qualitative Data as an Attractive Nuisance," *Administrative Science Quarterly* (December 1979), 590–601; and J. van Mannen, J. Dabbs, and R. Faulkner, eds., *Varieties of Qualitative Research* (Beverly Hills: Sage Publications, 1982).

A TRANSACTION COSTS FRAMEWORK

Definitions

Before the framework is developed, three essential terms must be defined. *Capital market* is usually defined to include the market structure for any transaction that involves an exchange of capital. This paper takes a more limited view by defining *capital market* in terms of a reporting jurisdiction. For example, the U.S. capital market includes any exchange of debt or equity capital subject to the reporting requirements set by generally accepted accounting principles. This definition, in essence, includes only those transactions executed by U.S. firms and audited by certified public accountants. In Switzerland, the capital market includes capital transactions executed under the jurisdiction of Swiss reporting standards, which, by definition, include the activities of those firms subject to Swiss federal law. Capital transactions involving any firm domiciled in Switzerland are included in this definition.

Transaction costs, as defined by Dahlman,[6] involve resource expenditures resulting from a lack of information. These costs can be classified in three categories, each representing a different junction in the process of executing a transaction: (1) search costs incurred to locate trading opportunities and to identify their characteristics, (2) bargaining and decision costs incurred in investigating and negotiating mutually agreeable terms and conditions, and (3) policing and enforcement costs incurred to preclude ex post facto violations of the agreement by one or both of the transacting parties. Jensen and Meckling[7] are among these who have observed also that asymmetry in the distribution of information between parties to the transaction is an important additional component of transaction costs. Thus, the current definition of transaction costs includes any resource expenditure necessitated by either incomplete or asymmetric information at each of the three junctures of the capital transaction indicated here.

The *external reporting system* includes any contrived device or communication structure to lead managers to provide unbiased reports.[8] It encompasses the standard-setting process and its resultant reporting requirements. In addition, mechanisms to ensure

[6] D. Dahlman, "The Problem of Externality," *The Journal of Law and Economics* (April 1979), 141–62.
[7] M. Jensen and W. Meckling, "The Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure," *Journal of Financial Economics* (October 1976), 305–60.
[8] "Contrived devices" are those that have been created by market participants. Regulations and legal constraints are included, but market forces are not.

audit quality and independence are also included in the system, as is the legal process that governs the enforcement of contracts both between managers and owners and among owners.[9] This study views these devices as interrelated; it does not attempt to disentangle their influences on managers to report in an unbiased fashion.

The Framework

Three types of rational individuals are involved in capital market transactions: owners, managers, and auditors. *Owners* have proprietary control over capital and search for managers who are able to provide a risk/return outcome consistent with the owners' preferences. *Managers* should be innovative and resourceful; they compete with one another for owner's capital, promising dividends and interest in return. *Auditors* are hired by managers to attest that the reports they provide to owners are unbiased.

Through transactions in the capital market, owners provide capital to managers in the form of debt and equity investments. Realizing that manager incentives may not be consistent with their own, owners demand that mangers enter contracts and periodically report the results of their activities. Competitive pressures force managers to provide reports to maintain their ability to attract capital and human capital values in the labor market.[10]

Managers have reasons, however, to bias reports in their own interests. Knowing this, owners demand that managers hire an independent third party to attest that these reports are prepared in an unbiased manner ("unbiased" is an ambiguous word; neither managers nor auditors would be able to define it uniformly). Once again, competitive pressure (and in some cases, legal requirements) force managers to act and, accordingly, they hire auditors.[11]

Although competition encourages managers to provide reports and hire auditors, it may not effectively ensure that all managers provide uniformly unbiased reports,[12] nor may it effectively ensure that auditors act, as well as appear to act, independently. This is especially true in the short term. Further, managers have both

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[9] The definition of "owners" used here includes both debit and equity holders.
[10] R. Holthausen and R. Leftwich, "The Economic Consequences of Accounting Alternatives: Frictions in the Monitoring, Contracting, and Information Processes" (Paper presented at the 1981 American Accounting Association meetings).
[11] D. Ng, "An Information Economics Analysis of Financial Reporting and External Auditing," *Accounting Review* (October 1978), 910–20; W. Wallace, *The Economic Role of the Audit in Free and Regulated Markets* (Rochester, N.Y.: The University of Rochester, 1980); and C. Chow, "The Demand for External Auditing: Size, Debt and Ownership Influences," *Accounting Review* (April 1982), 272–91.
[12] H. Wolk, J. Francis, and M. Tearney, *Accounting Theory: A Conceptual and Institutional Approach* (Boston: Kent Publishing Company, 1984).

monopolistic access to firm-specific information and incentives to underreport it.[13] Considering that the outcome of the audit is seldom clearly observable[14] and that managers have control over the audit fee,[15] it may be particularly difficult in a free market for the auditor to be independent (in fact and appearance) of the manager's incentives.

Thus, contrived devices are required to control managers' behavior to ensure that they report in both a reasonably uniform and an unbiased manner. Reporting standards are an example of such a control by providing for the auditor a consensus definition of "unbiased."[16] As suggested previously, in the absence of reporting standards, auditors would be forced to determine subjectively the content and scope of unbiased reporting on a case-by-case basis. This would discourage uniformity across reporting practices, as well as impose both a real and an apparent threat to the auditor's independence.

The legal liability and professional reputation of auditors also provide controls of the reporting behavior of managers because these controls provide incentives for auditors to maintain independence and high quality in their work. Contract law, which underlies the creation of the contracts written between owners and managers and among owners, also helps to control managers' reporting practices by providing a mechanism to monitor and enforce these contracts.

These controls of managers' reporting behavior are essential to reduce transaction costs by constraining managers from exploiting their asymmetric information advantage at the expense of owners. Such controls allow trading opportunities in the capital market to be sought, bargained for, and enforced at a lower cost because such controls allow transacting parties to rely reasonably on the terms of the exchanges. For example, contracts between owners and managers can be negotiated and monitored because these controls enable and encourage auditors to provide an independent attestation to the numbers used in the contractual terms. Parties

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[13] P. Bowers, *Private Choice and Public Welfare, the Economics of Public Goods* (New York: Dryden Press, 1974).

[14] L. DeAngelo, "An Economic Analysis of the Auditor-Client Relationship" (Ph.D. dissertation, University of Washington, 1980).

[15] M. Knapp, "Audit Conflict: An Empirical Study of the Perceived Ability of Auditors to Resist Management Pressure," *Accounting Review* (January 1985), 202–11.

[16] "Consensus definition" means here that market participants have created and are willing to work within a process for creating, implementing, and maintaining reporting standards. All participants, however, need not agree to all standards.

to the transaction can then determine the available options, as well as whether the relevant outcomes conform to these terms.

As stated here, contrived controls, as with reporting standards and the auditor's legal liability and professional reputation, in addition to the tenets of contract law, can reduce transaction costs by inducing managers to provide reasonably uniform and unbiased reports. Because these controls (or, as defined here, the external reporting system) can reduce the transaction costs, market participants (i.e., owners, managers, and auditors), who share such costs, have incentives to invest resources to create, implement, and maintain these controls. For example, in the United States, owners, managers, and auditors have expended resources to create and maintain a set of reporting standards. Similarly, these same parties support and maintain a legal system that enforces contracts and provides a mechanism to encourage audit independence and quality.

Although these controls serve to reduce transaction costs, their development, implementation, and enforcement are costly. Standard-setting bodies require nontrivial resources,[17] and the cost of holding auditors liable for their actions[18] and of legally enforcing contracts[19] can be quite significant. Rational market participants will invest in such controls to the point that the cost margin of the controls is equal to the reduction margin in transaction costs. The following is a model of this process.

Let TC = Total costs
T = Transaction costs
R = Reporting system costs

Assume that

$$TC = T + R$$

Since T is a function of R, $T(R)$ can be substituted for T. This leads to

$$TC = T(R) + R$$

Assume further that

[17] Contributions to the Financial Accounting Foundation in 1982 totaled approximately $5.3 million. See the interview with Paul Pacter in the *Journal of Accountancy* (December 1983).

[18] D. Causey, *Duties and Liabilities of Public Accountants* (New York: Dow Jones Irwin, 1979).

[19] J. Gould, "The Economics of Legal Conflicts," *Journal of Legal Studies* (June 1973), 279–300.

$$T'(R) < 0$$
$$T''(R) > 0$$

To this point, total costs have been described simply as the sum of transaction costs and reporting system costs. Because investments in reporting systems serve to reduce transaction costs, the model depicts transaction costs (T) as a negative function of reporting system costs (R). Thus, $T'(R) < 0$, which indicates that the slope of the T(R) function is negative. Further, the additional assumption has been made that the slope of the T(R) function increases (becomes less negative) at a decreasing rate, $T''(R) > 0$. In other words, each additional dollar investment in the reporting system reduces transaction costs by a decreasing amount.

Within this framework the objective of market participants is to choose the level of investment in the reporting system that minimizes total costs. In terms of the model, choose R such that T(R) + R is minimized. This objective is achieved at the point where the slope of the T(R) function is equal to −1. That is, TC is minimized at the point where a one-dollar investment in the reporting system reduces transaction costs by exactly one dollar. This relationship is illustrated in Exhibit 1.

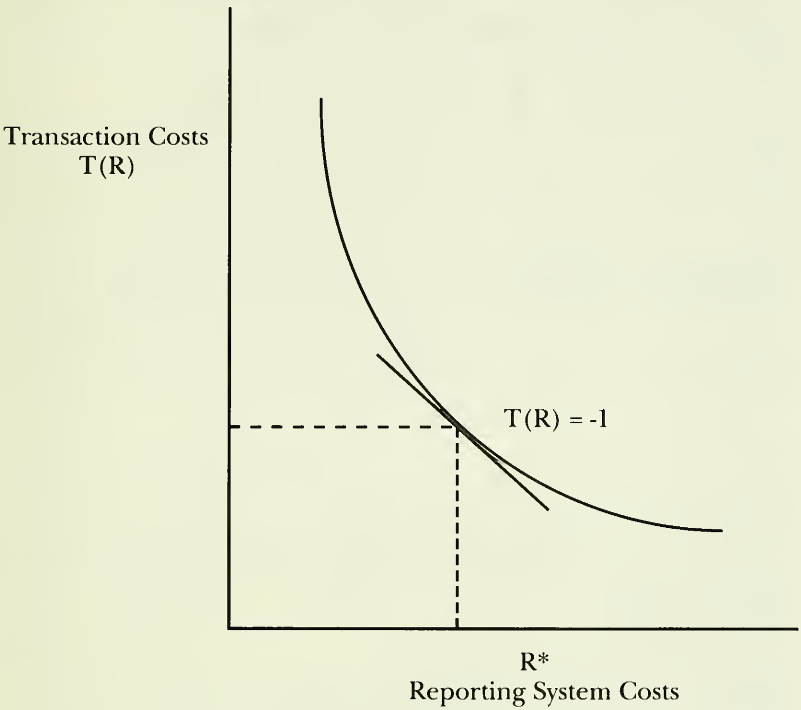
Exhibit 1 is a depiction that rational market participants will substitute reporting system costs for transaction costs to the point where total costs are minimized. This process gives rise to the choice of R*, the optimal level of investment in an external reporting system.

The following section argues that certain environmental factors which characterize capital markets affect this framework in one or two ways. Environmental factors can determine (1) the distance from the origin of the T(R) function or (2) the rate of change in the slope of the T(R) function. Either effect has a bearing on the optimal investment in an external reporting system (R*). As indicated in Exhibit 2(a), as the T(R) function moves from the origin, the optimal investment in an external reporting system becomes greater ($R_{us}^* > R_{sw}^*$). As illustrated in Exhibit 2(b), as the rate of change in the slope of the T(R) function becomes less ($T''(R)_{us} < T''(R)_{sw}$), the optimal investment in an external reporting system becomes greater ($R_{us}^* > R_{sw}^*$).

Environmental Variables

The following discussion identifies several environmental variables that affect the location of the T(R) function, as well as the change in the rate of substitution between transaction costs and reporting system costs in a given capital market.

Exhibit 1: Optimal Investment in an External Reporting System



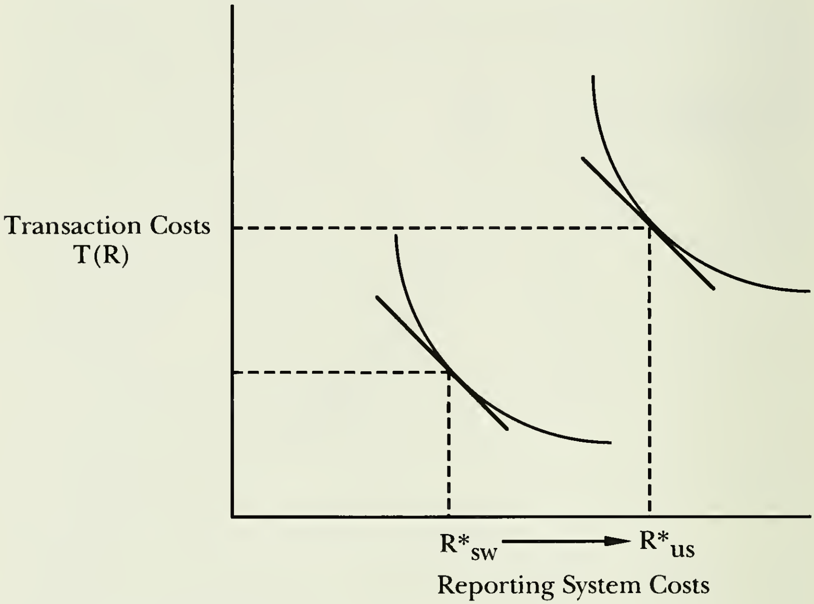
Capital Market Size, Complexity, and Distribution of Ownership

Some capital markets are larger than others. Participants in these larger markets execute more capital transactions and tend to represent larger firms that participate in a larger number of operations, which are more complex, than do other participants. Industrial production and gross investment are clearly larger in such markets, and the broad scale of business activity suggests that certain transactions, viritually nonexistent in small markets, are common and important. Complex financial transactions, such as mergers or sophisticated corporate takeovers and complex operating transactions such as elaborate inventory and capital asset purchasing or leasing arrangements, can be included in this category.

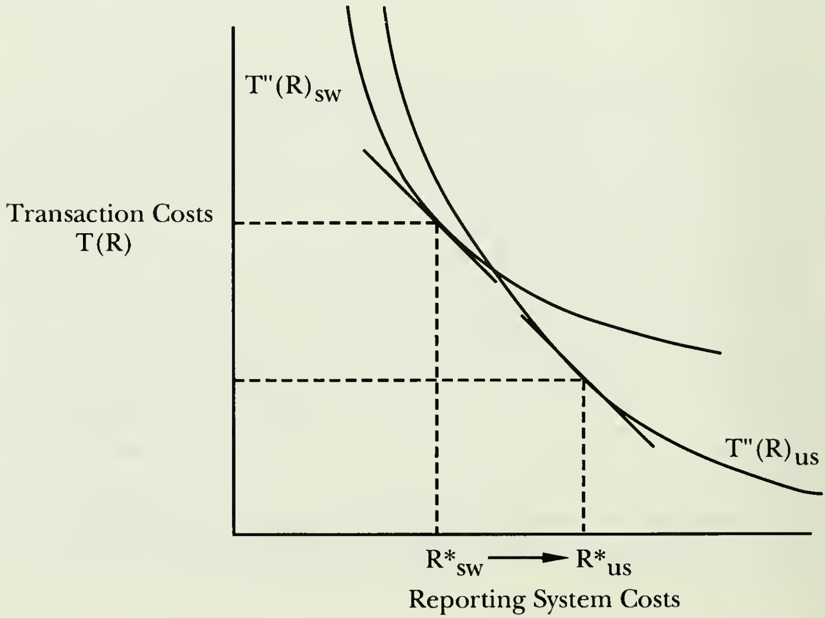
A corollary to a large capital market is a wide distribution of ownership; that is, a greater physical separation exists between (1)

Exhibit 2: Effects of Environmental Factors on Optimal Reporting System Costs

a. T(R) function moves away from the origin:



b. Slope of T(R) function changes at different rates:



sw = Switzerland
us = the United States

those who own and manage capital and (2) capital owners. Large markets dealing primarily in large public equity and debt placements consist of many more owners who are much farther removed from their respective managers than do smaller markets, which tend to rely primarily on private placements or bank capital.

In terms of the framework in this study, as the size of a capital market increases, the T(R) function tends to move from the origin; see Exhibit 2(a). A greater number of complex transactions and a wider dispersion of owners increase the transaction and reporting system costs involved in the substitution. Assuming that the slopes of the T(R) functions in large and small markets are the same, the optimal investment in a reporting system in a large capital market produces larger transaction and reporting system costs. Thus, the total costs incurred to execute transactions across the entire market are greater in large markets than they are in small markets.

The Owner-Manager Ratio

Williamson notes that as the effective number of market participants entering a particular exchange increases, competitive forces tend to force those participants to disclose the results of their activities.[20] Competitive pressures encouraging managers to provide unbiased reports are relatively greater in markets where many managers compete for the capital of few owners than in markets where few managers compete for the capital of many owners.

The ratio of owners to managers seems then to have some effect on the rate of change in the substitution of reporting costs for transaction costs, $T''(R)$. Where the owner/manager ratio is low and competitive pressures have already forced managers to disclose the results of their activities, additional dollar investments in the reporting system quickly reach the optimum level; see Exhibit 2(b), where $T''(R)_{sw}$ results in R^*_{sw}. In cases where the owner/manager ratio is relatively high and competitive pressures fail to provide the incentive for managers to produce unbiased reports, a larger investment in the reporting system is required to reach the optimum level. See Exhibit 2(b), where $T''(R)_{us}$ results in R^*_{us}.

Cultural Differences

There is little doubt that cultural differences exist. Indeed, volumes have been devoted to the psychological differences among individuals living in different cultural environments.[21] Hofstede notes that

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[20] O. Williamson, *Markets and Hierarchies: An Analysis and Antitrust Implications* (London: The Free Press, 1975).

[21] H. Triandis and W. Lambert, eds., *Handbook of Cross-cultural Psychology*, 5 vols. (Boston: Allyn and Bacon, 1980).

cultural differences reflect differences in attitudes and values that are due largely to an individual's repeated exposure to certain customs, practices, and behaviors.[22] After generations and years of evolution, the culture, as well as the individuals comprising it, internalizes such attitudes and values.

If cultural differences exist, market participants who constitute capital markets in different cultures differ systematically in their values and attitudes toward transactions, contracts, and the expected behavior of the other parties to the exchange. These value and attitudinal differences may be reflected in the accepted business practices of certain cultures.

This paper suggests that in large and highly complex capital markets characterized by widely separated market participants, high levels of opportunistic behavior are expected. Relying on Hofstede's argument that over time such behavior can become internalized by the culture, the authors of the present study suggest that market participants operating in these environments can be expected to value opportunistic behavior more highly than participants operating in less complex, closed environments do. Complex, widely dispersed environments allow participants to take advantage of one-time opportunities and thus, relatively speaking, such behavior is positively reinforced over time. Conversely, in cultures having smaller and less widely dispersed capital markets, where repeated transactions among closely related participants penalize potential cheaters and negatively reinforce opportunism, such behavior is neither frequently practiced nor highly valued.

Once again, this argument is related to the framework presented in Exhibit 2(b). Capital markets comprised of nonopportunistic participants require only a limited investment in a reporting system. The relatively small threat of the opportunistic use of asymmetric information by managers reduces the need for extensive controls on managers' behavior. Transaction costs are reduced to a tolerable level by a relatively small investment in an external reporting system. Similar to the previous argument concerning the owner/manager ratio, $T''(R)_{sw} > T''(R)_{us}$, which leads to $R^*_{sw} < R^*_{us}$.

This paper has argued thus far that large capital markets characterized by complex transactions, widely dispersed ownership, a high owner/manager ratio, and opportunistic participants minimize total costs at a much greater level of reporting system cost than do small capital markets characterized by similar transactions, closely held ownership, a low manager/owner ratio, and nonop-

[22] G. Hofstede, *Culture's Consequences* (Beverly Hills: Sage, 1980).

portunistic participants. The next section uses the framework presented here to explain why the external reporting system in the United States is much more extensive and costly than that in Switzerland. Specifically, we argue that the T(R) function in the United States is farther from the origin than that in Switzerland, and the slope of the T(R) function in the United States increases at a slower rate than the slope of the T(R) function in Switzerland: $T''(R)_{us} < T''(R)_{sw}$.

CAPITAL MARKETS: SWITZERLAND AND THE UNITED STATES

Capital Market Size, Complexity, and Distribution of Ownership

Audited U.S. firms undoubtedly tend to be larger and to participate in a much larger and more complex variety of operations than do firms in the Swiss capital market.[23] The gross national product in the United States is approximately twenty-five times greater than that of Switzerland. As of 1979, sales of $1 billion or more was reported by three hundred U.S. firms compared to sixteen Swiss firms. The average sales of U.S. *Fortune* 500 companies of $3 billion was approximately thirty times more than those of the 500 largest Swiss industrials. With the exception of a few very large multinationals (e.g., Nestlé and Ciba Geigy) whose annual disclosures far exceed those required by Swiss law,[24] Switzerland is overwhelmingly composed of very small firms. The average registered Swiss firm employs only fifteen people. One need only peruse the list of firms traded on the major U.S. exchanges to ascertain that the size and diversity of the business transactions conducted in the United States are far larger than those in Switzerland.

Further, the Swiss economy places a much greater relative emphasis on international trade than does the U.S. economy. Many Swiss firms, especially the larger ones, conduct an overwhelming percentage of their business in non-Swiss markets. This implies that many of the complex business transactions inherent in Swiss firms are not within the jurisdiction of Swiss law and reporting regulations and, therefore, are not included in the present definition of the Swiss capital market. With this in mind, the difference in complexity between the domestic capital market in Switzerland and that in the United States becomes even more striking. A

[23] The data used in most of the comparisons come from *Statistiches Jahrbuch der Schweiz* (Basel, Switzerland: Birkhaeser Verlay, 1982) and *Statistical Abstract of the United States* (Washington, D.C.: U.S. Department of Commerce, 1980).

[24] G. Behr, "Accounting and Reporting in Switzerland," *Der Schweizer Treuander* (March 1984), 79–82.

typical U.S. capital market participant (i.e., manager of an audited firm or prospective equity or debt investor) clearly faces a much more complex decision-making environment than the Swiss participant.

Swiss firms not only tend to be small but also are predominately closely held. In general, the ownership and financing sources of even the largest Swiss firms are not broadly based. Many are privately owned or bank controlled, relying on bank loans rather than public debt and equity issuances for their financing needs. In 1980, the prime rate in Switzerland was approximately 9 percent less than that in the United States. Over time, such low rates have made debt financing a relatively attractive alternative to the Swiss manager. It is not surprising that for years bank loans have been the major source of financing in Switzerland.[25] In fact, in 1977 bank investments in domestic loans exceeded the Swiss GNP by a factor of 2 to 1.

Swiss security markets are also on a very small scale, comparatively speaking. As of February 1983, the largest Swiss security market, located in Zurich, listed the bonds of only seventy-three Swiss industrial firms and the stocks of only seventy. In all of 1981, only nineteen domestic bond issuances were publicly registered in Switzerland. Of the one hundred largest industrial firms, sixty were not represented at all on the Zurich exchange and only seventeen had both their bonds and equity securities traded (see Exhibit 3). Although a few of the sixty firms may have been traded on other Swiss exchanges or on the limited over-the-counter market, the amount involved is likely to be very small. Most of these firms rely exclusively on private and/or bank financing.[26]

The Swiss manager's heavy reliance on bank loans and limited

Exhibit 3: Representation of the 100 Largest Swiss Industrials on the Zurich Exchange

Both stocks and bonds listed	17
Stocks only listed	13
Bonds only listed	10
Neither stocks nor bonds listed	60
Total	100

[25] H. Mast, *The Swiss Banking System* (Zurich: Credit Swiss Publications, 1977).

[26] A handbook of listed Swiss securities for 1981 provided by S.B.C., one of the largest Swiss banks, contained thirty-five of the one hundred largest Swiss industrials. The following is the distribution of markets through which the securities of these thirty-five firms were traded: 23, Zurich and other exchanges; 6, over the counter; 4, Zurich only; 2, other exchanges only.

use of the public debt and equity markets have combined to create the highest aggregate private debt-to-equity (less retained earnings) ratio of any nation in the industrialized world.[27] For example, Oerlikon Buehrle Holding, Hoffman-La Roche, Gebrueder Buehler AG, and the Hesta-Group, all listed in the top twenty Swiss industrials, are family owned and virtually self-financed operations.

The U.S. reporting jurisdiction, in contrast, can be characterized by a significantly broader-based firm ownership. As of December 31, 1979, approximately 6,500 domestic securities were listed on the nine U.S. exchanges,[28] compared to approximately 200 in Switzerland. The aggregate market value of U.S. security issuances from 1976 to 1979, for example, was approximately thirty times greater than those in Switzerland. At the end of 1980, approximately 3,000 domestic issuers were represented on the U.S. exchanges, but only 75 issuers were represented on the Swiss exchanges.

Owner-Manager Ratio

A corollary to the closely held nature of Swiss firms is the fact that the sources of capital in Switzerland are very limited. With the small security markets, the cantonal banks[29] and three major banks virtually dominate the domestic capital market.[30] For example, these two groups account for approximately 75 percent of the domestic loans held by Swiss banks, and the three major banks (Swiss Bank Corporation, Union Bank of Switzerland, and Credit Swiss) control the very significant in flow of capital to Switzerland from foreign sources. Since the end of World War II, foreign capital has been critically important to the stability of the Swiss economy.

The overwhelming strength of the banking system in Switzerland suggests that Swiss managers in need of capital have few choices and, thus, have relatively limited bargaining positions. A highly developed system of interlocking directorates, where bank officers are typically on the boards of even the largest Swiss firms, ensures that the banks are actively involved in Swiss management.[31] For example, Alusuisse, the fourth largest Swiss industrial; Electrowatt,

[27] G. Berweger, *Investigation and Legitimation: Privat Investitonene in Entwicklungslandern als Teil der Schweizerischen Legitimations Problematik* (Dissenhofen: Ruegger, 1977).
[28] Securities and Exchange Commission, *Annual Report 1980* (Zurich: SEC, 1980).
[29] Switzerland is divided into twenty-two cantons, each with one cantonal bank whose activities are confined by statute to its cantonal area.
[30] Mast, *Swiss Banking System.*
[31] Berweger, *Investigation and Legitimation.*

with over $500 million in sales; and many other large Swiss firms are essentially controlled by the major banks. The extent of this influence enables a bank to gain access to a firm's internal records. Such an environment fosters little need for reporting standards, auditors, or legally enforceable contracts. The owners of capital are strong enough to go directly to the source for their information needs.

In the United States, such is certainly not the case. Both U.S. capital markets and banking systems are well developed and highly competitive. No segment of capital owners in the United States has nearly the relative strength of the Swiss banking system. Thus, U.S. managers have many capital sources from which to choose and, accordingly, have a stronger bargaining position than their Swiss counterparts. Capital owners in the United States, therefore, cannot demand access to a firm's internal records. Their information needs must be satisfied through an external reporting system.

Cultural Differences

For centuries the Swiss have demonstrated a strong devotion to their particular institutions and organizational arrangements. Swiss managers rarely create change and seem to maintain extreme levels of loyalty to the individuals and systems of their organizations. Goal incongruence between owners and managers appears to be a limited problem in such an environment. In contrast, in the United States, it is not uncommon for managers to progress up the corporate ladder by moving from one firm to another. Such behavior suggests that the Swiss organizational loyalty is certainly not so evident in the United States.

In a study of the cultural values of employees of a large U.S. multinational having offices in forty countries, Hofstede found some striking differences between the values of U.S. employees and of their Swiss counterparts.[32] He found that U.S. business persons ranked first among nineteen Western nations on a dimension he termed "individualism"; Swiss businesspersons ranked fourteenth. Accordingly, U.S. employees tended to value concepts such as advancement, wealth, and personal recognition significantly more highly than did Swiss employees, who emphasized such ideas as loyalty, friendly atmosphere, and cooperation. Businesspersons in highly individualistic countries, such as the United States, also tended to consider pursuing their own ends without regarding the

[32] Hofstede, *Culture's Consequences.*

goals of others as socially acceptable. Opportunism, therefore, would seem to be more prevalent in the United States than in Switzerland.

In summary, this paper has presented evidence to suggest that, compred to those in Switzerland, U.S. capital markets encompass a larger number of complex transactions among more widely dispersed participants who attach higher values to opportunistic behavior. Further, U.S. markets are characterized by a higher owner/manager ratio. As previously indicated, such differences should lead to more costly and extensive efforts in the United States to induce managers to provide unbiased reports.

EXTERNAL REPORTING SYSTEMS: SWITZERLAND AND THE UNITED STATES

Standard-Setting Processes

Swiss reporting standards are contained in the Swiss Commercial Code of Obligations, a part of its federal law. Although federal law is the result of a democratic political process, the federal government is not characterized by a two-party system that may change from election to election as in the United States. Rather, political power rests with a coalition of all major parties: conservatives, agrarians, liberals, and social democrats. The opposition includes people at large who, under a system of compulsory or optional referendum, can accept or reject legislative measures. This system is very slow and assures that, once it is accepted, new or revised laws are considered relatively permanent. Thus, changes in reporting standards occur as a result of this process and are therefore quite slow. In contrast to the Swiss system, the U.S. system, with the Securities and Exchange Commission (SEC) and the Financial Accounting Standards Board (FASB), combines professional judgment and political input into an extensive and frequently changing set of reporting regulations at a seemingly ever-increasing rate. For example, since the inception of the FASB, over one hundred accounting standards have been added to the definition of generally accepted accounting principles in the United States. Switzerland had no changes to the reporting requirements during the same period.

Financial Reporting Regulations

In Switzerland, the general principles for keeping books and preparing the financial statements are contained in Federal Articles 957–961 referred to in the chapter on business activities in the Code of Obligations. These principles require, within a reasonable time following the end of the financial year, the preparation of accounts that must be complete, true and clear, prepared in accordance with generally recognized commercial principles, and expressed in Swiss currency. The Code of Obligations also sets maximum valuation limits for balance sheets of corporations, which, in general, are equal to the acquisition cost of the account in question. However, Article 663 gives discretionary power to the board of directors or management of an entity to (1) carry assets at less than the amounts described above, and (2) create hidden or secret reserves (e.g., excessive depreciation and amortization or liability write-ups), provided this is done to ensure the continued prosperity of the enterprise or to permit maintenance of the profit (dividend) distribution level. Simply, Swiss managers are encouraged by law to understate assets (or overstate liabilities) to allow discretionary income smoothing over time. Although they must be informed of the variations in these "reserves," the auditors are not allowed to disclose this information in their report to the shareholders. Thus, no disclosure of valuation principles is required or possible in the financial statements within Swiss law. Further, Swiss reporting requirements state that only banks and insurance companies are required to publish their annual accounts. Others may do so if they wish.

Normally, published financial statements of Swiss corportions include only a balance sheet and an income statement with the minimum disclosure. With the exception of banks and other financial institutions, which are governed by highly specialized regulations, the format of the financial statements is not regulated by law but is left to the discretion of the managers responsible for their preparation.

Clearly, the Swiss reporting requirements are quite unlike the extensive set of generally accepted accounting principles and SEC regulations existing in the United States. The formats of the balance sheet and income statement are, of course, well specified in the United States as are the format and content of the statement of changes in financial position, which are not even required in Switzerland. U.S. valuation principles, although generally conservative, are far more specific than those in Switzerland. Conservative measurement of inventories and marketable securities may create reserves of a sort, but additional required disclosures often reveal these reserves. The discretionary creation and manipulation of such reserves is certainly not encouraged in the body of U.S. generally accepted accounting principles. Moreover, the principle of full disclosure in the United States represents a fundamental philosophical difference from the intentional concealing of information from stockholders in Switzerland. Indeed, the differences between the two countries in reporting philosophy, regulations, and practices are significant. The reporting regulations in the United States are clearly more extensive and impose greater constraints on managers reporting than do those in Switzerland.

Audit Quality and Legal Liability

In Switzerland federal law requires that all financial statements must be audited on an annual basis. However, the individuals performing these statutory audits need be neither independent nor professionaly certified. Independent auditors are required in only limited cases.[33] Most are trained at commercial junior colleges and some hold only a high school diploma.[34] Switzerland has no professional audit standards, and auditors face almost no legal liability. Legal proceedings filed by owners against auditors are highly unusual.

Again, the situation in Switzerland is far different from that in the United States, where an individual must be an independent, licensed certified public accountant with a university degree to perform an audit. Further, legal liability is a great concern to the U.S. auditing profession because suits against auditors are both common and costly.[35] This, in turn, has created a strong incentive for the development of extensive standards to define audit quality.[36] These standards protect the auditor from such high levels of legal liability.

Legally Enforceable Contracts

Legally enforceable contracts among equity and debt holders in the United States are common and well documented.[37] A number of authors argue that such contracts reduce transaction costs by

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[33] Independent auditors are required for the following: (1) corporations with legal capital of Sf 5 million or more; (2) companies having bonds or identures outstanding; and (3) institutions appealing to the public to obtain money deposits. As the theory presented in this paper would predict, even in Switzerland, where firms are larger and capital owners are more widely dispersed, more costly and extensive reporting system controls are implemented.

[34] Choi and Mueller, *International Accounting.*

[35] H. Jaenicke, *The Effect of Litigation on Independent Auditors, Commission on Auditors' Responsibilities, Research Study No. 1* (New York: American Institute of Certified Public Accountants, 1977); Causey, *Duties and Liabilities;* and K. St. Pierre and J. Anderson, "An Analysis of Factors Associated with Lawsuits against Public Accountants," *Accounting Review* (April 1984), 242–63.

[36] American Institute of Certified Public Accountants, *Commission on Auditors' Responsibilities: Report, Conclusions and Recommendations* (New York: AICPA, 1978).

[37] R. Leftwich, "Accounting Information in Private Markets: Evidence from Private Lending Agreements" *Accounting Review* (April 1983), 202–11.

bringing together the goals of various market participants.[38] Examples include bonus agreements, stock incentive plans and debt covenants. In Switzerland, on the other hand, such contracts are virtually nonexistent.[39] The few that do exist are very unstructured and poorly specified. For example, the traditional "bonus agreement" used in Swiss firms leaves the amount to be paid to the manager to the discretion of the owner.[40]

SUMMARY

In essence, this paper has argued that the size, complexity, and diversity of capital transactions, the wide distribution of ownership, the ratio of owners to managers, and the opportunistic nature of the market participants in the United States underlie the creation, implementation, and maintenance of extensive and costly controls on managerial reporting behavior. Such controls reduce transaction costs by leading managers to provide unbiased reports and therefore generate a flexible and dynamic standard-setting process, an extensive set of reporting regulations, high levels of auditor liability and standards, and many legally enforceable contracts among capital market participants. Conversely, in Switzerland, where relatively small, closely held, and centrally controlled firms are managed and owned by individuals who value cooperation and loyalty, incentive is insufficient to expend the resources required for an extensive external reporting system. Thus Switzerland has a slow and cumbersome standard-setting process, poorly specified reporting standards leaving much to the manager's discretion, limited emphasis on audit quality, very little auditor liability, and virtually no legally enforceable contracts among capital market participants.

IMPLICATIONS

The framework proposed here represents an attempt to explain the role and existence of external reporting systems and provides insights into both domestic and international reporting problems. According to this framework, reporting jurisdictions should be defined by the size, complexity, and variety of transactions executed therein, by the diffusion of the ownership and relative bargaining power of the owners and managers, and by the attitudes of the market participants toward such factors as opportunism. This

[38] Jensen and Meckling, *The Theory of the Firm,*" 305–60.
[39] J. Pratt and G. Behr, "Entwicklung von Grundsutzen der Rechnungslegung und Rechnungprufung," *Schweizerischer Aktiengesellschft* (July 1983).
[40] Behr, "Accounting and Reporting in Switzerland."

framework in the United States might be applied to the problem of differential disclosure.[41] Compared to large U.S. firms, small U.S. firms tend to have less variety of and fewer complex types of transactions and tend to be financed by a much less diffuse group of capital owners who exert great influence on the management. In view of these environmental factors, it seems inefficient to require that such firms incur the costs associated with the same external reporting system required of large firms operating in markedly different environments.

In international standard setting, the rate of substitution between transaction costs and reporting system costs in a particular reporting jurisdiction can provide a key indication of the willingness of that jurisdiction's market participants to bear the costs of such standards. With its relatively small markets, Switzerland, for example, would be expected to resist the imposition of costly and extensive reporting standards from outside international organizations. Its resistance to adopt the recent accounting directives of the European Economic Community (EEC) in the face of some external pressure is one case in point. On the basis of the rate of substitution they face, some countries and/or reporting jurisdictions may be willing to adopt formally only general and relatively unspecific reporting compromises, but others, after accepting such compromises, may be unwilling to modify their actual reporting practices significantly. Perhaps the lukewarm adoption of the EEC's relatively general Fourth Directive by its member countries can be explained in this way.

In any event, knowledge of the T(R) functions that characterize particular reporting jurisdiction may help international standard-setting bodies to predict and understand better the positions of potentially affected countries as to reporting proposals. This, in turn, may better enable standard setters to find more efficient compromises among participant nations. Nevertheless, this framework does suggest that gaining broad-based acceptance for meaningful international standards among nations characterized by different T(R) functions will be an extremely difficult, perhaps impossible, task. An alternative, perhaps more feasible, strategy is a proposed two-tier system of reporting.[42] Such a system would require a common set of reporting requirements in international

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[41] American Institute of Certified Public Accountants, *Tentative Conclusions and Recommendations of the Special Committee on Accounting Standards Overload* (New York: AICPA, 1981).

[42] Nobes and Parker, *Comparative International Accounting;* and Turner, "International Harmonization."

capital markets and allow each country's individual requirements in its domestic markets.

Such a two-tier reporting system would allow international reporting requirements to evolve in response to tradeoffs of transaction/reporting costs inherent in international capital markets. Gaining acceptance for such a system is likely to be far easier than gaining acceptance for overall harmonization of reporting standards. In fact, many multinational companies regularly publish financial reports that materially exceed the requirements of their home countries. Even in Switzerland such behavior is common.[43] Those firms publishing such information apparently perceive the necessity for additional disclosures to gain access to and compete effectively in international securities markets. In other words, as these firms move into capital markets where more transaction costs are driven down by a given investment in the reporting system, they are increasingly willing to incur the costs of more extensive reporting.

LIMITATIONS AND FUTURE RESEARCH

Certainly this framework provides only a single view of the role and existence of external reporting systems. Other views of the process may be equally useful and, in conjunction with this perspective, may enrich the analysis considerably. For example, this argument views the legal system as a variable that can be influenced by market participants. That is, in an effort to reduce transaction costs, market participants are able to influence the legal system in such a way as to place high legal responsibility on auditors and to enforce contracts in a cost-effective manner. Characteristics of the legal system, such as class-action suits, contingent legal fees, and the elements of contract law, represent some of the variables that might be influenced by market participants to achieve such ends.[44] Alternatively, the legal system could be viewed as a given or, in terms of the present analysis, as an environmental variable, assuming that market participants have no control over the legal system.

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[43] L. Daley and G. Mueller, "Accounting in the Area of World Politics," *Journal of Accountancy* (February 1982), 40–45.

[44] Interestingly, in the United States, class-action suits and contingent legal fees are very much a part of the legal system. Both factors encourage large settlements against auditors and, thereby, drive up the costs of legal liability. Switzerland, which has fewer class actions and expressly does not include contingent fees in its legal system, has considerably less incentive to file suit against auditors. In terms of the framework of this paper, U.S. market participants, in the face of high transaction costs, created class-action suits and contingent legal fees to impose more extensive controls on manager reporting discretion.

Such a perspective would consider the legal system in terms of its impacts on the transaction costs inherent in a given reporting jurisdiction or capital market. The legal system is most likely both a determinant and a result of capital market transaction costs.

Similarly, this argument fails to capture the reciprocal nature of the relationships within the framework presented. The reason is that environmental factors influence the rate of substitution between transaction costs and reporting system costs, which, in turn, produces the incentives to create external reporting systems. Certainly, a more complete view of this process recognizes the dynamic and reciprocal nature of these relationships. For example, does diffusion of ownership lead to high transaction costs and, as a result, a desire to regulate disclosure? Or do reliable disclosures improve the efficiency of capital markets allowing greater diffusion of ownership?

This framework includes neither all relevant environmental variables nor all factors that can lead managers to provide unbiased reports. For example, the role of tax laws has not been discussed, nor have sanctions imposed on managers who fail to conform to the reporting regulations been considered. One would expect both factors to vary across reporting jurisdictions and to have some impact on the reporting practices therein.

The framework is also limited in that it relies almost exclusively on market forces to create incentives to develop and maintain an external reporting system. To the extent that economies are centrally controlled, the analysis is less applicable.

In addition to expanding upon these limitations, future research could take any of a number of directions. Other countries could be similarly analyzed. For example, this framework could be used to explain differences between the U.S. external reporting system and that of countries such as Japan, Canada, England, and others in Western Europe.[45] Further, an empirical test of this framework would consist of comparing measures of the environmental variables across a number of countries and relating them to characteristics of domestic external reporting systems. In addition, the

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[45] For example, see J. McKinnon, "Application of Anglo-American Principles of Consolidation to Corporate Financial Disclosure in Japan," *Abacus* (June 1984), 16–33; R. Bloom, "The Impact of Cultural Differences between Canada and the United States on Canadian Accounting" (Paper presented at the Workshop on Accounting and Culture, Amsterdam, June 1985); F. Barfuss, R. Musson, and D. Bennett, "Some Significant Differences in U.S. and U.K. Reported Net Income," *CPA Journal* (February 1982), 44–48; and, in general, Nobes and Parker, *Comparative International Accounting.*

framework may be useful in explaining some of the seemingly inconsistent results from previous examinations designed to cluster nations in terms of their external reporting standards and practices.[46] Finally, analytical and empirical studies could be conducted into the relationship between environmental variables and transaction costs and into the mechanism through which reporting requirements and other external reporting system characteristics reduce transaction and other costs associated with these external reporting system characteristics.

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[46] Da Costa, Bourgeois, and Lawson, "A Classification of International Financial Accounting Practices"; Frank, "An Empirical Analysis of International Accounting Practices"; Nair and Frank, "The Impact of Disclosure and Measurement Practices on International Accounting Classifications"; and Nobes, "A Judgemental International Classification of Financial Reporting Practices."

SFAS No. 52 and the Statement of Changes in Financial Position: A Survey and Proposal for Change

ORAPIN DUANGPLOY, EUGENE L. ZIEHA, and DAHLI GRAY*

Public interest in assessing future cash flows of publicly held companies has led to the requirement that they issue a statement of changes in financial position as a basic financial statement. The general perception is that there is a direct relationship between fund generation and user confidence: the higher the proportion of funds generated by an entity's operations, the more confidence users have in reported income. The statement of changes in financial position does not only indicate the financial flexibility and liquidity of an enterprise, but it also helps the reader to assess the quality of income and the continuity of operating capacity. The latter is based on the belief that a firm's ability to maintain a given physical level of operations depends on the adequacy of funds being generated.

The issuance of Statement No. 52 by the Financial Accounting Standards Board (FASB) (applying the functional currency approach) complicates the perception of the consolidated statement of changes in financial position. Unfortunately, SFAS No. 52 provides no specific guidelines in this area. The need for guidance is particularly evident when the functional currency is that of a foreign currency. The translation adjustment resulting from trans-

* Orapin Duangploy is Professor of Accounting, University of Houston — Downtown.

Eugene L. Zieha is Lecturer, University of Maryland — College Park and Professor Emeritus, University of Missouri at Columbia.

Dahli Gray is Peat Marwick Research Fellow, University of Notre Dame.

lating a foreign entity's financial statements into the reporting currency must be excluded from the net income calculation but must be accumulated as a separate component of equity. How should the enterprise account for the effect of exchange rate changes in the consolidated statement of changes in financial position? Should the explanation of the changes in financial position be in terms of the functional foreign currency or in U.S. dollars?

The only authoritative source for preparation of the statement of changes in financial position is Opinion No. 19 of the Accounting Principles Board (APB). It advocates the all-financial resources concept, which requires the disclosure of all significant transactions affecting nonfund accounts, regardless of whether the accounts are directly affected. However, APB No. 19 allows the use of a flexible format and content in preparing the statement.

Without guidance as to the preparation of consolidated statement of changes in financial position involving a parent company and foreign subsidiaries, how do publicly held entities prepare this statement? Are relevance and comparability, which are among the qualitative characteristics required in useful financial information, reflected in this statement? This study addressed these questions by using a survey to determine the application of SFAS No. 52 and APB Opinion No. 19 in practice and then analyzed the results of the survey. Suggestions are presented in this paper relative to improving the presentation of this statement by companies that must comply with SFAS No. 52.

THE SURVEY

A computerized search using the National Automated Accounting Research System was used to select the first one hundred companies identified as having foreign or international operations.[1] These one hundred companies selected by computer were asked to send an annual report. Eighty-six companies responded. Of those eighty-six companies, eighty-three reported the use of an account similar to a foreign currency translation adjustment on their balance sheets. The majority of the surveyed companies (forty-seven companies, or 57 percent of the respondents) used the term "cumulative translation adjustment." Twenty companies used "foreign currency translation adjustment" as the account title. Eight companies preferred the simple term "translation adjustment," and four others used "accumulated foreign currency translation adjustments." Two

[1]Andrew P. Gale, "Computerized Research: An Advanced Tool," *Journal of Accountancy* (January 1982), 73–84.

companies referred to "currency translation adjustment" and "deferred translation adjustments." Although the terminology was inconsistent, readers of the consolidated balance sheets should still be able to understand the comparisons presented.

ANALYSIS OF SURVEY RESULTS CONCERNING SCFP

An analysis of the survey concerning the use of Statement of Changes in Financial Position (SCFP) reveals a great disparity in describing the effects of exchange rate changes. Some respondents reported the effects of foreign currency exchange rate changes under one account title; others presented these effects under numerous account titles. Exhibit 1 groups the designations or titles used in the annual reports of the eighty-six firms according to single title or multiple titles. It also indicates the number of companies that used each title.

Further, the survey results indicate a wide diversity in the manner in which SFAS No. 52 reports data in the SCFP. To be consistent with APB Opinion No. 19 requirements, translation adjustments should be reported as both a source and a use of funds. Some companies complied with all of the requirements of APB Opinion No. 19; others reported an adjustment to operations; several firms showed the translation adjustment as a use of funds; a few listed the foreign currency translation adjustment as a new subheading independent of sources of uses of funds. One company presented an identical description and amount in both the balance sheet and the statement of changes in financial position. Exhibit 2 lists the subheadings under which the relevant items appeared on the statement.

Of the companies that reported the effect of foreign currency changes under the title "applications of funds," only one company disclosed the major items affected by the changes in exchange rates. Twenty-nine companies did not show the effect of translation adjustments in the statement of changes in financial position, although they disclosed translation adjustments in the balance sheet. The effect of translation adjustment may have been included in the "Other" heading in the consolidated statement of changes in financial position. Another possibility is the interpretation of the translation of the statement of changes in financial position in terms of local currency. One of the two companies that reported foreign currency translation adjustments under the sources of funds title segregated the translation adjustments realized under funds from operations from other sources.

Exhibit 1. Titles Used on Accounts

Account description	Number of companies
Single title	
Translation Adjustments	22
Effect of Exchange Rate Changes on Working Capital	10
Effect of Foreign Currency Translation Adjustment	8
Cumulative Translation Adjustments	2
Change in Shareowners' Equity Resulting from Exchange Rate Changes	1
Change in Exchange Rate	1
Effect of Foreign Currency Rate	1
Impact on Working Capital due to Translation Adjustments	1
(Decrease) Increase in Cumulative Translation Adjustments	1
Reduction in Equity in Affiliates	
	47
Multiple titles	
Increase in Translation Adjustment Account	2
Less: Reduction in Fixed Assets	
Translation Adjustment Realized	1
Effect of Foreign Currency Translation on Working Capital	
Translation Adjustments	1
Plant and Equipment	
Deferred Income Taxes	
Foreign Translation Adjustment relating to	1
Cash and Cash Equivalents (under Dispositions of Cash and Cash Equivalents)	
Certain items above (under Sources of Cash and Cash Equivalents)	
Changes in Exchange Rates	1
Net Property, Plant and Equipment	
Long-term Debt	
Foreign Pension Reserve	
Deferred Income Taxes	
Equity Translation Adjustment	
Reduction in Plant and Equipment due to Exchange Rate Changes	1
Cumulative Translation Adjustment	
Currency Translation Changes	1
Changes in Cumulative Translation Adjustment	
Adjustment for Noncurrent Items	
Net Foreign Currency Adjustment	
Currency Translation Adjustment of Long-Term Debt (under both Sources & Uses of Funds)	1
Currency Translation Adjustment of Fixed Assets	
Changes in Equity from Currency Translation Adjustments	
Foreign Currency Translation	1
Decrease in Property, Plant and Equipment	
Decrease in Deferred Taxes and Credits	
	10
No disclosure	29
	86

Exhibit 2. Reported Use of Subheadings on Financial Statements

Location on SCFP	Number of companies
Single title	
Applications of Funds	19
Funds Provided (Used by Operations)	13
Funds Provided for (Used for)	5
Funds Provided by (Used by) Working Capital Excluding Borrowings	2
Funds from Other Sources Excluding Financing Activities	2
Funds Provided by (Used for) Investment Activities	2
Disposition of Funds — Other	1
Cash Used for Investment Activities	1
Cash Provided by Operations and Retained in the Business	1
Sources of Funds	1
Funds Required by Continuing Operations	1
	48
Multiple titles	
Applications of Funds	1
Long-term Asset Changes, Debt Changes, Stockholders' Equity Changes	1
Foreign Currency Translation Adjustment	4
Both Locations: Sources and Uses of Funds	2
Funds from Operations [separated from] Funds from Other Sources	1
	9
No disclosure	29
	86

An interesting approach taken by four companies is the use of the term "adjustment for foreign currency rate changes" as a new subheading independent of both sources and uses of funds. Adjustments for changes relevant to noncurrent accounts were made under this heading.

The results of the survey demonstrate that few of the annual reports reviewed complied with all of the financial resource concepts advocated in APB Opinion No. 19. Only two of the eighty-six surveyed companies reported the effects of exchange rate changes under both sources and uses of funds. Seven provided an analysis of the effects of the exchange rate changes on certain items.

IMPLICATIONS OF THE SURVEY RESULTS

The diversity in the observed practice reduces the usefulness claimed for conventional financial statements. A financial statement is useful if it provides information that is comparable among firms.

The disclosure of the net amount of the effect of exchange rate fluctuation of funds does not provide information adequate to assess the amounts, timing, and uncertainty of prospective cash receipts and disbursements. The effect of exchange rate fluctuations on the external and internal sources of funds should be clearly delineated, rather than being shown as a net amount. A net amount, which is a combination of different elements, does not allow the users to assess the financial flexibility or to predict the future cash flows of a firm.

The failure to disclose the effect of exchange rate changes on funds by twenty-nine of the responding companies could be due to the belief that no change in financial position has occurred. According to this concept, translation is simply the process of restating the foreign currency statement of changes of financial position in the U.S. dollar version. The study undertaken by Largay in 1983 indicated that security analysts "are interested in what the foreign currency financial statements show."[2] This requirement seems to be consistent with the underlying objective of SFAS No. 52 to provide information "generally compatible with the expected economic effects of a change in exchange rates on an enterprise's cash flows and equity."[3] Thus, without FASB's clear interpretation of the translated statement of changes in financial position, an omission of the disclosure of the effect of exchange rate changes on the statement of changes in financial position can still be conceptually sound, although such a statement is not comparable to the others.

Despite the requirement in APB No. 19 that financial statements "prominently disclose working capital or cash provided from or used in operations for the period,"[4] only fifteen of the eighty-six responding companies indicated that they comply with this requirement. Furthermore, the recent FASB exposure draft emphasized the use of the cash basis by recommending that every corporate report use the cash flow approach. The rationale was that "the greater the amount of future net cash inflows from operations, the greater the ability of the enterprise to withstand adverse changes in operating conditions."[5] Recent evidence demonstrating the accuracy of cash flow from operations to indicate

[2] James A. Largay III, "SFAS No. 52: Expediency or Principle?" *Journal of Accounting, Auditing, and Finance* (Fall 1983), 51.
[3] Ibid., 46.
[4] Accounting Principles Bulletin 19, par. 10.
[5] Financial Accounting Standards Board, *Reporting Income, Cash Flows Financial Position of Business Enterprises*, Exposure Draft (Stamford, Conn.: FASB, 1981).

an entity's impending financial bankruptcy is the case of W. T. Grant Co.[6]

Given the growing interest in the cash flow from operations (CFO), various ratios (such as CFO/Sales, CFO/Total assets, CFO/Net worth, and CFO/Total debt) will inevitably be distorted if the effect of exchange rate changes is not reflected in this cash-flow component. This is particularly true during the current period of volatile exchange rates. Perhaps, in some cases, the current assets and liabilities may be effectively hedged. Such hedging actions to protect the exposed asset/liability positions are, however, not currently disclosed in the financial statements.

Another problem area indicated in the survey reflects the inconsistent use of the term "translation adjustments." The translation adjustments included on the balance sheet differ from those included on the statement of changes in financial position. This inconsistency is confusing. The use of the same title for both an accumulated increase/decrease in equity and a current period change in financial position should be carefully reviewed.

Based on the criteria stated in Concepts Statement No. 2, the current practice of applying SFAS No. 52 and APB Opinion No. 19 to the consolidated statement of changes in financial position fails to provide useful information to financial statement readers. The current incomparable and confusing consolidated statement of changes in financial position is very difficult to understand. How can the financial community use the reported funds flows to make decisions unless it understands them?

RECOMMENDATIONS

Lack of guidance from FASB is inevitably the primary cause of diversity in practice. The inconsistency in terminology and the complicated comparability disclosure among firms are the major weaknesses revealed by the survey reported here. A new pronouncement establishing guidelines consistent with the functional currency concept in SFAS No. 52 should be in order.

In the meantime, under current generally accepted accounting principles, two major areas of improvement are recommended. First, the application of the terms *translation adjustments* and *disclosures* should be restricted. Foreign currency translation adjustments are defined by SFAS No. 52 as "an inherent result of

[6] James A. Largay III and Clyde P. Stickney, "Cash Flows, Ratio Analysis and the W. T. Grant Company Bankruptcy," *Financial Analysts Journal* (July-August 1981), 51–54.

Exhibit 3. F Company Financial Statements

BALANCE SHEET

	Beginning of Year			End of Year			
	LC*	Exch. rate	US$	LC	Exch. rate	US$	LCU† difference
Cash	8,200	0.5	4,100	10,200	0.55	5,610	2,000
Accounts receivable	16,000	0.5	8,000	15,200	0.55	8,360	−800
Inventory	15,000	0.5	7,500	18,600	0.55	10,230	3,600
Land	0	0.5	0	0	0.55	0	0
Fixed assets	34,400	0.5	17,200	43,400	0.55	23,870	9,000
Accum. depreciation	−10,000	0.5	−5,000	−10,600	0.55	−5,830	−600
							0
Total	63,600		31,800	76,800		42,240	13,200
							0
							0
Accounts payable	12,720	0.5	6,360	10,920	0.55	6,006	−1,800
Other liabilities	400	0.5	200	800	0.55	440	400
Bonds payable	0	0.5	0	8,000	0.55	4,400	8,000
Common stock	13,000	0.5	6.500	13,000	0.5	6,500	0
Retained earnings	37,480	0.5	18,740	44,080	R/E state‡	22,198	6,600
							0
Total	63,600		31,800	76,800		39,544	13,200
							0
Translation adjustment			0			2,696	

INCOME STATEMENT

	LC	Exch. rate	US$
Revenue	43,000	0.53	22,790
Cost of sales	14,000	0.53	7,420
Gross profit	29,000		15,370
Operating expenses	21,200	0.53	11,236
Other revenues	800	0.53	424
Net income	8,600		4,558

STATEMENT OF RETAINED EARNINGS

	LC	Exch. rate	US$
Beginning balance	37,480	see B/S	18,740
Net income	8,600		4,558
Dividends	−2,000	0.55	−1,100
Ending balance	44,080		22,198

*LC = Local currency
†LCU = Local currency unit
‡ Retained Earnings Statement

Exhibit 4. Translated Local SCFP Method, F Company

Statement of Cash Flows[a]
For the Year Ended December 31, 19A

	LCU*	Exchange rate	US$
Cash was provided by:			
Operations:			
Net income	8,600	0.55	4,730
Add: Depreciation	1,400	0.55	770
Decrease in accts. recev.	800	0.55	440
Increase in other liab.	400	0.55	220
Less: Increase in inventory	−3,600	0.55	−1,980
Decrease in accounts payable	−1,800	0.55	−990
Gain on equipment	−400	0.55	−220
Total from operating activities	5,400		2,970
Sale of equipment	1,800	0.55	990
Purchase of equipment	−11,200	0.55	−6,160
Total from investing activities	−9,400		−5,170
Issuance of bonds	8,000	0.55	4,400
Payment of dividends	−2,000	0.55	−1,100
Total from financing activities	6,000		3,300
	2,000		1,100

* LCU = Local currency unit.
[a] Former name: Statement of Changes in Financial Position

the process of translating a foreign entity's financial statements from the functional currency to U.S. dollars."[7] Translation adjustments are disclosed and accumulated in a component of consolidated equity on the balance sheet. They have no direct effect on the operation or cash flow of the foreign units and are simply a result of an arithmetic process that forces an amount in order to balance the debits and credits.

Effect of exchange rate changes rather than *Translation adjustments* should be used to describe the exposure of each nonfund account to exchange rate fluctuations on the statement of changes in financial position. Unlike the translation adjustments on the balance sheet, the computation of the effect of the exchange rate on the statement of changes in financial position for each nonfund account, including the net worth accounts, is only for a specified period of time and is not cumulative.

[7] Financial Accounting Standards Board, *Statement of Financial Accounting Standards No. 52*, "Foreign Currency Translation" (Stamford, Conn.: FASB, 1981), summary.

Exhibit 5. Translated Local SCFP Method, P Co. and S Co.

Consolidated Statement of Cash Flows Worksheet
For the Year Ended Dec. 31, 19A

	Parent	Subsidiary	Eliminations Dr.	Eliminations Cr.	Consolidated
Cash was provided by:					
Operations:					
Net income	37,042	4,730[a]	4,730		37,042
Add: Decreciation	4,000	770			4,770
Decrease in accts. receivable		440			440
Loss of land	3,000				3,000
Increase in Other Liab.		220			220
Less: Increase in accts. receivable	−10,000				−10,000
Increase in inventory	−11,000	−1,980			−12,980
Decrease in accounts payable	−6,000	−990			−6,990
Gain on equipment		−220			−220
Equity in subsidiary's net income	−4,558		(A)	4,730	582
			(C)	410	
Total from operating activities	12,484	2,970			15,864
Investing activities:					
Sale of equipment		990			990
Sale of land	7,000				7,000
Dividends from subsidiary	1,100	(B)	1,100		0
Purchase of equipment		−6,160			−6,160
Total from investing activities	8,100	−5,170			1,830
Financing activities:					
Issuance of bonds		4,400			4,400
Issuance of common stock	18,000				18,000
Payment of dividends		−1,100	(B)	1,100	0
Retirement of bonds	−20,000				−20,000
Total from financing activities	−2,000	3,300			2,400
Increase (decrease) in cash	18,584	1,100	(C)410		20,094
			6,240	6,240	

(A) Equity in subsidiary's net income elimination entry
(B) Dividend income elimination entry
(C) Effect of exchange rate changes from reconciling F Co. beginning and ending cash balances.

The effect of foreign currency exchange rate changes should be disclosed for each significant source and use of funds. It is vital to delineate clearly the internal items that are realized in the operating cycle from the external ones. By separately disclosing the effects

Exhibit 6. A Comparison of the Translated Local SCFP Method and the Exposure Draft Current Rate Method

Statement of Cash Flows For the Year Ended December 31, 19A

	Translated local SCFP method US$		Exposure draft US$	
Cash was provided by:				
Operations				
Net income	37,042		37,042	
Add: Depreciation	4,770		4,742	
Loss of land	3,000		3,000	
Increase in other liab.	220		212	
Less: Equity in subsidiary's net income (A)	582		0	
Gain on equipment	−220		−220	
Increase in inventory	−12,980		−12,908	
Increase in acct. receivable	−9,560		−9,576	
Decrease in accounts payable	−6,990		−6,954	
Total from operating activities		15,864		15,338
Investing activities				
Sale of equipment	990		990	
Sale of land	7,000		7,000	
Purchase of equipment	−6,160		−5,936	
Total from investing activities		1,830		2,054
Financing activities				
Issuance of bonds	4,400		4,400	
Issuance of common stock	18,000		18,000	
Retirement of bonds	−20,000		−20,000	
Total from financing activities		2,400		2,400
Effect of exchange rate changes on cash		N/A		302
Increase (Decrease) in cash		20,094		20,094

(A) This amount is due to

(1) The difference between current rate ($.55) and average rate ($.53) in translating F Co. net income, 8,600 LCU (.02 × 8,600 = $172) and

(2) Exchange rate effect, $410, in reconciling beginning and ending cash balances of F Co.

	Beginning cash balance	Ending cash balance	Difference
	LCU 8,200	LCU 10,200	LCU 2,000
	×.5	×.55	
	$4,100	$5,610	$1,510
Increase in cash (per Exhibit 1)			1,100
Exchange rate effect			410*

* Cash at beginning of year	8,200	
Difference between exchange rate at end of year (.55) and beginning of year(.50)	×0.05	410

Ratio analysis (%)	Local cur. unit	Trans. SCFP	Exposure draft
Cash flow from operations/Total assets	7.03	7.03	6.76
Cash flow from operations/Sales	12.56	13.03	12.52
Cash flow from operations/Net worth	9.46	9.46	9.09

Exhibit 7. Exposure Draft Current Rate Method, F Company

Statement of Cash Flows
For the Year Ended December 31, 19A

	LCU	Exchange rate	US$
Cash was provided by			
Operations:			
Net income	8,600	0.53	4,558
Add: Depreciation	1,400	0.53	742
Decrease in accts. recev.	800	0.53	424
Increase in other liab.	400	0.53	212
Less: Increase in inventory	−3,600	0.53	−1,908
Decrease in accounts payable	−1,800	0.53	−954
Gain on equipment	−400	0.55	−220
Total from operating activities	5,400		2,854
Investing activities			
Sale of equipment	1,800	0.55	990
Purchase of equipment	−11,200	0.53	−5,936
Total from investing activities	−9,400		−4,946
Financing activities			
Issuance of bonds	8,000	0.55	4,400
Payment of dividends	−2,000	0.55	−1,100
Total from financing activities	6,000		3,300
Increase effect of exchange rate changes on cash			302
	2,000		1,510

of exchange rate changes on the operations from other sources and of other sources from uses of funds, the information provided will become relevant and useful in assessing a firm's income and financial flexibility.

A Proposal: The Translated Local SCFP Method

Theoretically, if the functional currency is the foreign currency, the primary sources and uses of funds are stated in local currency units. No economic impact should be felt on the functional currency funds flow due to exchange rate changes. The prevailing approach of preparing the consolidated statement of changes in financial position based on translated consolidated balance sheets and income statement does not present information relevant to decision making regarding the funds flow of a consolidated entity. In some cases, the identification of the sources and uses of funds from the translated balance sheet and income statement may

Exhibit 8. Exposure Draft Current Rate Method
P Co. & S Co.

Consolidated Statement of Cash Flows Worksheet
For the Year Ended December 31, 19A

	Parent	Subsidiary	Eliminations Dr.	Eliminations Cr.	Consolidated
Cash provided by					
Operations					
Net income	37,042	4,558	4,558(A)		37,042
Add: Depreciation	4,000	742			4,742
Decrease in accts. receivable		424			424
Loss on land	3,000				3,000
Increase in other liab.		212			212
Less: Increase in accts. receivable	−10,000				−10,000
Increase in inventory	−11,000	−1,908			−12,908
Decrease in accounts payable	−6,000	−954			−6,954
Gain on equipment		−220			−220
Equity in subsidiary net income	−4,558		(A)	4,558	0
Total from operating activities	12,484	2,854			15,338
Investing activities					
Sale of equipment		990			990
Sale of land	7,000				7,000
Dividends from subsidiary	1,100	(B)	1,100		0
Purchase of equipment		−5,936			−5,936
Total from investing activities	8,100	−4,946			2,054
Financing activities:					
Issuance of bonds		4,400			4,400
Issuance of common stock	18,000				18,000
Payment of dividends		−1,100	(B)	1,100	0
Retirement of bonds	−20,000				−20,000
Total from financing activities	−2,000	3,300			2,400
Effect of exchange rate changes on cash		302			302
Increase (Decrease) in cash	18,584	1,510			20,094
			5,658	5,658	

(A) Equity in subsidiary's net income elimination entry
(B) Dividend income elimination entry

generate results contrary to the results presented by the local currency funds flow.[8]

[8] Frederick D. S. Choi and Ashwinpaul Sondhi, "SFAS No. 52 and the Funds Statement," *Corporate Accounting* (Spring 1984), 50.

To be consistent with the interpretation of SFAS No. 52 relative to translation, which is simply an expression of one currency to another, no change in the measurement of the translated balance sheets for two different dates is necessary. The consolidated statement of changes in financial position under the new approach is prepared by using the closing rate to translate the foreign subsidiary statement of changes in financial position from foreign currency to U.S. currency. The report generated reflects the local funds flow expressed in U.S. dollars. The financial relationships obtained from this method (e.g., CFO/Total assets) are the same as those expressed in the foreign currency.

Next, the parent company's statement of changes in financial position is consolidated with the foreign subsidiary's translated statement of changes in financial position. The extent to which exchange rate changes may effect the consolidated statement of changes in financial position is limited to the intercompany accounts and the reconciliation of the foreign subsidiary's beginning and ending cash balances. The amounts equal the remaining balance in the equity account on the subsidiary's net income statement after the elimination entries in the working paper and will later be treated as an adjustment from the accrual basis to the cash basis in deriving cash provided from operations. Illustrations of the translated local SCFP method are presented in Exhibits 3–6.

ADDENDUM

After this paper was completed, FASB issued an exposure draft advocating the application of the statement of cash flow. Similar to the authors' proposed model, it supports reporting the equivalent of local currency cash flows. It uses the term "effect of exchange rate changes on cash." Unlike the model proposed here, the exposure draft recommended the application of a weighted average exchange rate in translating the income statement — related accounts in the statement of cash flows. It also recommended inclusion of the "effect of exchange rate changes on cash" as an independent subheading in the income statement. (See Exhibits 7 and 8.) A comparison of the two methods is presented in Exhibit 6; both methods attempt to preserve the financial results and relationships that exist in the local currency. The authors' method, however, appears to be more appropriate when both the numerator and denominator of a financial ratio pertain to balance sheet accounts.

The survey results reported in this paper support the promulgation of the FASB's exposure draft on the statement of cash flows.

The recommendation made by FASB concerning foreign currency translations appears to be consistent with the underlying objective of SFAS No. 52. Thus, it is possible that a uniform approach to the interpretation and presentation of the consolidated statement of cash flow may be possible in the near future.

Accounting in the Context of Its Environment: The Uruguayan Case

LARRY CARMONY*

The need to study the evolution of accounting in its environmental setting in developing countries, such as Uruguay, is increasingly recognized in the literature.[1] That the environmental setting necessarily includes cultural norms and societal attitudes has also been established.[2] The intent of this article is to provide a thorough study of the evolution of enterprise accounting and reporting in the Uruguayan environment using a holistic as well as an historical approach. A holistic approach means "studying any given aspect of human life [in this case the accounting system] with an eye to its relationship to other aspects of human life" over time.[3]

The development of a conceptual model to identify the major environmental factors influencing the evolution of the enterprise accounting system in a country has been used previously.[4] Exhibit 1 is such a model developed specifically for the Uruguayan situation. In the exhibit, the characteristics of each environmental factor are

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* Larry Carmony is Controller, Terra Corporation, Albuquerque.

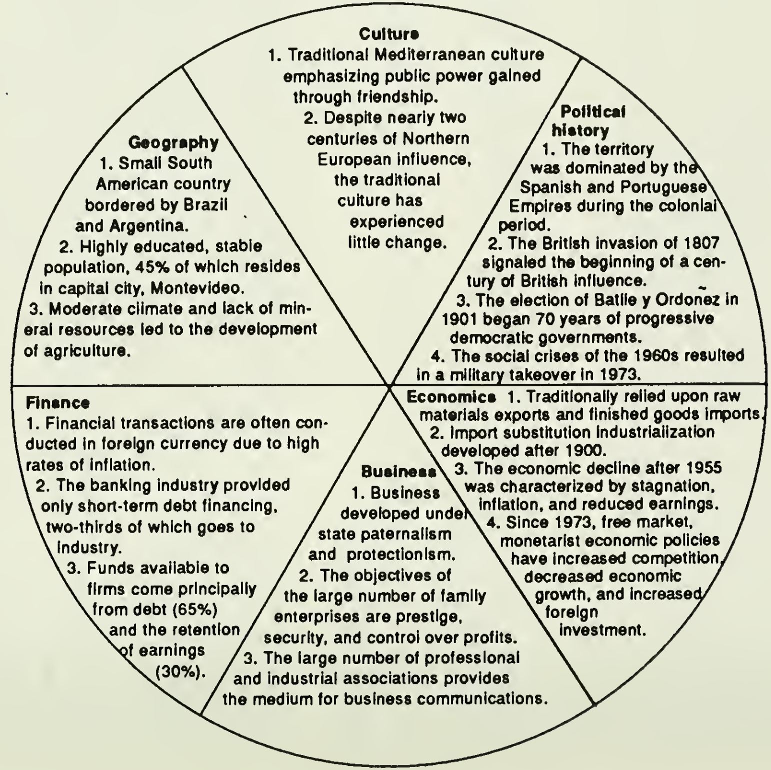
Portions of the research for this paper were prepared during exchange study in Uruguay. The opinions are those of the author only. The author wishes to thank Professor Patricia A. Frishkoff of Oregon State University for her assistance in developing this article and reviewing the manuscript.

[1] Lee H. Radebaugh, "Environmental Factors Influencing the Development of Accounting Objectives, Standards, and Practices in Peru," *International Journal of Accounting* (Fall 1978), 39–56; and Richard J. Briston, "The Evolution of Accounting in Developing Countries," *International Journal of Accounting* (Fall 1978); 105–20.
[2] J. M. Samuels and J. C. Oliga, "Accounting Standards in Developing Countries," *International Journal of Accounting* (Fall 1982); 76–78.
[3] Fred Plog and Daniel G. Bates, *Cultural Anthropology*, 2nd ed. (New York: Alfred A. Knopf, 1980), 9.
[4] Radebaugh, "Environmental Factors," 40.

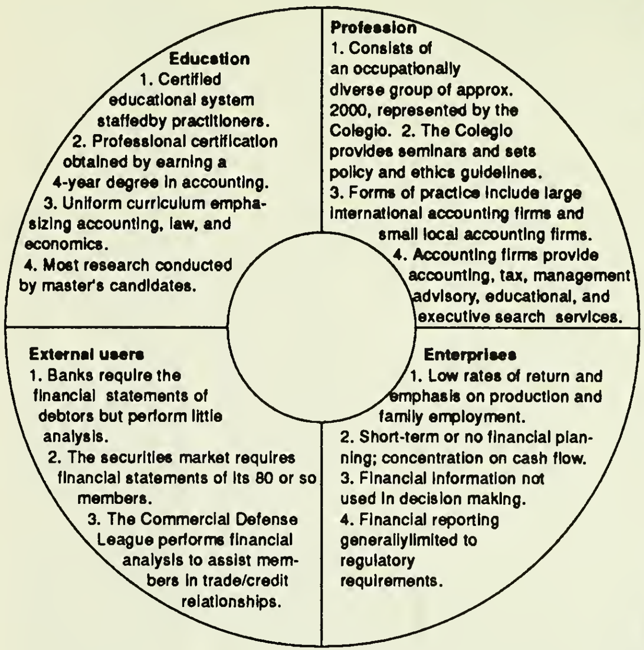
Exhibit 1. Environmental Factors and the Uruguayan Accounting System

Overview of environmental factors

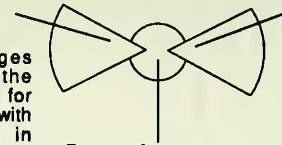
External environment



Internal environment



Governmental influences, International influences, and domestic accounting & reporting segments



International influences

1. Foreign exchanges and texts provide the necessary expertise for accountants working with large corporations in Uruguay.
2. International auditing firms and foreign pronouncements provide policy that can be adopted by the Colegio.
3. Urguayan subsidiaries have sophisticated accounting systems for reporting to parents, but the systems seldom meet local needs.
4. Approximately 19 of the 21 banks in Uruguay are backed with foreign capital, but decision-making policy is set locally.

Accounting & reporting

1. Theories developed in industrialized nations relating to shareholders' needs.
2. Extensive, specific standards for accounting, disclosure, and auditing tailored to the parent nation's environment.
3. Practice that conforms with policy.

Domestic accounting & reporting theory — Recent development of deductive accounting theories through participation in regional conferences.

Policy - Development of accounting and auditing policy that is in the form of recommendations to Colegio members.

Practice — Practices that emphasize the balance sheet, provide limited disclosure, and do not adhere to policy. Recent upgrading of practices to conform with the uniform financial statement format.

Governmental influences

1. Since 1973 the executive power has instituted sweeping reforms.
2. The government maintains control over accounting policy but uses the Colegio's assistance.
3. Direct business taxes are based on income and net worth. Uniform financial statements are the basis for tax calculations.
4. Government banking regulations require inflation adjustments, projected cash flows, and limited reviews for large loans.

Accounting & reporting

1. Objectives include gathering macroeconomics data, controlling corporations, and improving financial reporting.
2. Regulations require the presentation of uniform financial statements and the publication of summary statements.
3. Compliance, especially in disclosure, has been lacking; the trend is toward full compliance.

presented; their influence on the accounting system is discussed in the text. The outer ring represents those external environmental factors that relate to all aspects of life in Uruguay. The second ring represents the internal environmental factors that are an integral part of the accounting system. The center consists of theory, policy, and practice which represent the components of the accounting and reporting systems. The two wedges emphasize the importance of international influences and the central government in Uruguayan business and accounting. The wedges also highlight the increasing predominance of the multinational accounting system and the government's corporate reporting requirements.

EXTERNAL ENVIRONMENT

Geographical Influences

Uruguay's small size and proximity to Argentina, which has a similar government and tax structure, have led to heavy dependence on foreign accounting texts for instruction and foreign pronouncements for policy. For example, the basic set of university accounting texts is Argentine, and the basis for the recent pronouncement on limited reviews (similar to a compilation and review in the United States) came from similar U.S. and Argentine pronouncements.[5]

The high educational standards have contributed to the accounting profession's departure from foreign accounting theories and support for current value accounting policies, as well as social human resource valuation and opportunity cost accounting research.[6] The centralization of social and economic activity in Montevideo has led to a similar concentration of accountants and policy toward industry and commerce and a tendency to ignore agricultural accounting in the rural sectors.

Culture

The significance for accounting of the aspects of public power through friendship orientation has been its influence on human behavior, specifically the behavior of executives, politicians, and accountants. Many businesses in Uruguay are still organized around the extended family, the Uruguayan's most trusted friends.[7] A

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[5] Comisión de Normas y Procedimientos de Auditoría, Colegio de Doctores en Ciencias Económicas y Contadores del Uruguay, "Informe de la Comisón sobre: Revisión Limitada de Estados Constables" in *Su empresa y su banco* (Montevideo: Price Waterhouse, 1982).

[6] X Jornada de Ciencias Económicas del Cono Sur, *Resoluciones de las Comisiones de Estudio* (Montevideo: Colegio, 1980).

[7] Seymour Martin Lipset, "Values, Education and Entrepreneurship" in *Elites in Latin America* (New York: Oxford University Press, 1967).

significant portion of a business executive's time and energy must be devoted to developing and maintaining friendships.[8] The ultimate result of public power is control. The exercise of this control leads to centralized decision making in businesses and government, with little need for team work or delegation.[9] As a result of these cultural attributes, managers often do not make use of the accounting information available when making economic decisions. Although managers are knowledgeable in scientific management decision-making processes, the resistance of cultural values to change precludes any assimilation to them.

Political History

During the reign of the Spanish and the Portuguese, accounting records were kept to maintain the crown's trade monopoly and to assure that the king's one-fifth share was remitted to Spain or Portugal. With the addition of English trade and capital, English accountants and accounting were introduced. During the 1890s, when English influence was strong, the Code of Commerce developed, following the British emphasis on stewardship and the detection of fraud.

The progressive legislation of the Batlle era required accounting information, especially that relating to human resources, to be reported to various bureaucratic agencies. With increased Uruguayan education and the expropriation of certain British enterprises, British accounting influence was diminished. The recent military government has shown a strong interest in upgrading accounting and reporting practice to U.S. standards through regulation.

Economics

The traditional export/import economic base allowed the adoption of English venture accounting as the basis for further accounting developments. With the development of import substitution industrialization came an increasing need for industrial accounting which also followed the English system. The general economic decline over the last twenty-five years has caused a de-emphasis of the income statement by management, has made inflation-adjusted

[8] Glen Caudill Dealy, *The Public Man: An Interpretation of Latin American and Other Catholic Countries* (Amherst: University of Massachusetts Press, 1977).

[9] Robert F. Barlow, "Management Development in Uruguay" (Montevideo: Asociación Cristiana de Dirigentes de Empresa, 1977).

statements a necessity, and has decreased enterprise resources available for accounting system improvements. The current increased foreign investment has brought more international influence, principally from the United States, to the accounting system.

Business

The development of industry under government protection diminished the importance of accurate accounting data needed for effective decision making. Instead, government protection of labor required business compliance with extensive payroll, health, and welfare reporting.

The proprietors of the family enterprise do not require extensive accounting information to meet their objectives. Rather, these goals are achieved through centralized decision making; slow, low-risk growth; and modest reinvestment of earnings.

The lack of a print medium for business information contributes to business reliance on an informal communiction network. Most information, including financial, is passed verbally and in qualitative rather than quantitative terms. This form of communication, together with the cultural environment, has led to the formation of several professional and industry associations. For example, one of the objectives of the Círculo de Ejecutivos de Créditos (an association of credit managers) is to "exchange information about its [members'] clients."[10]

Finance

The use of foreign currency for deposits and loans necessitates the use of foreign currency translation and substantially increases the firms' risk due to devaluations. For example, in November 1982, the debt of many industrial firms was doubled due to a government devaluation of currency. In addition, the use of short-term debt, rolled over every six months, to finance fixed asset acquisitions creates the problem of short-term debt that is really long-term financing. The importance of debt finance accounting and creditor financial reporting is increased by the lack of a significant stock market and the limited use of internally generated funds. These factors of the Uruguayan environment create havoc with the accounting standards developed for industrialized countries where capital funding plays a significant rule.

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[10] Círculo de Ejecutivos de Créditos, *Informe de su 20 Aniversario* (Montevideo: CEC, 1981).

INTERNAL ENVIRONMENT

Education

Uruguay's accountants have a standardized educational background, since there is only one university and curriculum. Although the curriculum emphasizes theory, the faculty, who are also full-time practitioners, introduce practical elements. Many of these practitioners are employed by international auditing firms and, thus, use Argentine pronouncements and those of the U.S. Financial Accounting Standards Board for instruction and testing. The curriculum emphasizes law, accounting, and economics which account for one-fourth, one-third, and one-fifth of the coursework, respectively. The two major degree areas are accounting/administration and economics, which have led to accountants performing all types of business functions.

Master's degree candidates are required to submit monographs which constitute the majority of accounting and business research in Uruguay. These monographs usually include a section on theory followed by a survey of local firms. Their utility is severely limited by the fact that the theoretical basis applies to large multinational firms in industrialized countries and does not apply to the Uruguayan environment on which the survey is done.

Profession

Due to the lack of specific degrees in other areas of business administration, accountants have positions in all aspects of business, government administration, and public accounting. In addition, as is common practice in Uruguay, the accountant might have several simultaneous jobs. For example, an accountant might be controller of a company, a university professor, and a consultant for three or four small companies.

Membership in the Colegio de Doctores en Ciencias Económicas y de Contadores (Colegio), the Uraguayan professional society of accountants, is not mandatory; however, 80 to 90 percent of Uruguay's public accountants are members.[11] The Colegio originated as a guild under the Spanish system and provided a code of ethics, set minimum fee standards, offered educational seminars, and acted as a lobbying group for the various occupational groups. Until the 1960s, its main emphasis was to protect and improve public accountants' monopoly on governmental accounting positions and certified paper work.

[11] Miguel Larrimbe, personal interview, 8 March 1983.

Beginning in the 1960s through its involvement in the Inter-American Accounting Association (IAA) and the Jornadas de Ciencias Económicas del Cono Sur (Jornadas), the Colegio began to initiate accounting policy guidelines for its members. The IAA includes members from both American continents, and the resolutions of its conferences tend to adhere to traditional U.S. accounting principles; the Jornadas is composed of accountants from the southern South American countries (Argentina, Brazil, Chile, Paraguay, and Uruguay). Its resolutions define accounting in a broader sense, reflecting the values of the cultures represented.

The dozen or so international auditing firms in Uruguay provide services to multinational and domestic companies, each representing approximately one-half of their client base. The average international firm has ten to fifteen professionals, while domestic accounting firms average two to five. In both cases, entry-level positions are typically filled by students in their last two years of study. Candidates are evaluated on communication skills, knowledge of their field, social activity, and age; however, personal references and family ties can play an important part in the selection process. The diverse services of the auditing firms necessitate the employment of all types of professionals, including lawyers, economists, and engineers.

Enterprises

The size of companies in Uruguay is generally measured in terms of numbers of employees for the following reasons:

1. The historical importance of social welfare and employment on which the government compiles statistics;
2. Rates of return lower than interest rates, indicating that proprietors are in business for cultural reasons such as keeping family members employed; and
3. Lack of another reliable measuring source — sales are not public information, and historical cost income or assets are unreliable due to inflation.

This has contributed to the lack of importance of financial information for outsiders. In addition, most companies in Uruguay are closely held or are family operations where management and ownership are not separated.

The highly volatile and unpredictable economic environment of business has not facilitated the development of long-term financial planning. Most firms use one-year cash budgets as their only formal financial planning tool.[12] Similarly, since the firms' emphasis is not on rate of return, investment and operational decisions are not based on the financial information, historical or projected, even when available.[13] Since enterprises receive little benefit from additional financial reporting, it is usually limited to governmental regulatory requirements. These are discussed in a subsequent section.

External Users

Due to intense competition, banks are reluctant to increase individually the financial information requirements beyond that required by the government. Banks typically confirm the financial information themselves by visiting the company and contacting customers and suppliers. The necessary adjustments for revaluations and depreciation of fixed assets are also made by the banks. The most common form of financial analysis used by loan officers is a judgmental review of the assets and liabilities presented in the financial statements. For larger industrial and commercial loans, ratio analysis is also used. In reaching a credit decision, personal and business references and collateral are more heavily considered than the financial information provided.[14]

The securities market has not developed in Uruguay and, as such, its financial statement requirements, which are similar to those of the government, affect few firms. This has diminished the importance of such accounting items as earnings per share, profitability, sales, and other items that demonstrate the profitability or growth in earnings of a firm. In addition, the government has not introduced regulation in this area since there is not a large number of investors to protect. Independent audits and reporting standards have not developed.

The Liga de Defensa Commercial, Uruguay's most important credit bureau, has encountered difficulty obtaining reliable financial data from firms, especially small ones that do not consider it obligatory to provide. As with banks, the bureau uses ratio analysis and self-confirmation.

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[12] María del Carmen Forcella Ingles et al., "La empresa privada en el Uruguay" (monografía, Montevideo: 1981), 38–47.

[13] Hector Bonanata et al., *La funcíon finanzas en la empresa Uruguaya*, monografía (Montevideo: Editorial Tecnica S.R.L., 1978), 192–94.

[14] Various authors, "Estudio de balances para el ortorgamiento de colocaciones en la banca privada" (Montevideo: 1977), 154–55.

DOMESTIC ACCOUNTING AND REPORTING

Theory

Largely through their participation in the international accounting societies, Uruguayan accountants have shown an increasing interest in developing accounting theories. During the 1960s, a universal, inductive set of accounting principles was developed and was adopted by the Inter-American Accounting Conference of 1965. These principles consisted of the traditional U.S. accounting principles such as the entity, going concern, materiality, objectivity, conservatism, and historical cost.

More recently Uruguayans, with other South American accountants, have begun to depart from these principles and to adopt theories considered more progressive. For example, at the X Jornada de Ciencias Económicas del Cono Sur in 1980, a differentiation was made between accounting standards referring to informational qualities and those that refer to income measurement and net worth valuation. In addition, current value accounting was adopted as a theoretical benchmark.[15] As previously mentioned, the profession is currently expanding the field of accounting theory into social and human resource valuation accounting.

Policy

The accounting and auditing policy recommended by the Colegio (the professional society of accountants in Uruguay) is largely composed of international pronouncements. This policy consists of local pronouncements, international accounting standards, the resolutions of the Inter-American Accounting Conferences and Jornadas de Ciencias Económicas del Cono Sur, and doctrine.[16] The six local pronouncements of the Colegio prescribe the definition and sources of accounting standards, auditing standards, and the standards for limited reviews. The Colegio has also prepared a pronouncement, based on International Accounting Standard 15, that will require the presentation of inflation-adjusted financial statements.[17]

Practice

Before the government's introduction of uniform financial statements, accounting and reporting practices were a mixture of local traditions and multinational reporting requirements. Based on a

[15] X Jornada de Ciencias Económias del Cono Sur, *Resoluciones.*
[16] Colegio de Doctores en Ciencias Económicas y Contadores del Uraguay, *Pronunciamiento No. 4: Fuentes de las Normas Contables para la presentación adecuada de los Estados Contables* (Montevido: CDCECU, 1981).
[17] Larrimbe, personal interview, 8 March 1983.

1978 survey of the financial statements of fifty commercial and industrial corporations with more than fifty employees, the following practices were found.[18]

General

1. The two basic statements were the balance sheet and the income statement.
2. Less than 20 percent presented comparative statements.
3. Less than 10 percent included explanatory notes or additional disclosure.

Balance sheet

1. The distinction between current and non-current assets and liabilities was made 50 percent of the time.
2. Investment and inventory valuation methods and estimates for uncollectible accounts were generally undeterminable.
3. Eighty-two percent of the companies showed accumulated amortization as a deduction from property, plant, and equipment.
4. Net worth was divided into capital, reserves (amounts not capitalized, adjustments to equity, and reserved earnings), and accumulated earnings.
5. Encumbrances, including such items as consigned goods and guarantees of third-party debt, were presented in equal amounts below total assets, total liabilities, and net worth.

Income statement

1. Little detail is presented in the income statement compared with the balance sheet.
2. In 40 percent of the income statements, sales and cost of goods sold were omitted, and gross margin was the first line item.
3. Common practices have not developed for the treatment of operating costs or non-operating income.
4. Prior period adjustments are included before net income 30 percent of the time.
5. The statement of changes in accumulated earnings is added at the bottom of the income statement 25 percent of the time.

These are the practices of the relatively large companies in Uruguay. While corporate financial statements have changed significantly with the imposition of a uniform financial statement, noncorporate businesses still follow these practices.

[18] R. Alonso et al., "Estados Contables Básicos: Formas de presentación en el Uruguay (Montevideo: 1979), 69–104.

For domestic corporations, the only attesting is usually in the shareholder audit if it is required by the corporate by-laws. The original intent was to assure shareholders that the financial statements prepared by management are fair and reliable. The auditor, who is not necessarily an accountant, is elected by the shareholders at the annual meeting where the following year the auditor's findings must be reported. The procedures performed by the auditor depend largely on the level of expertise and the seriousness with which the task is undertaken and are not comparable to an independent auditor's opinion.

INTERNATIONAL

Influences

Uruguay is tremendously affected by occurrences in the international environment. The majority of these influences originate in the United States or Britain; Argentine influences are not as apparent due to the similarity of accounting systems.

Foreign texts and exchange professors have assisted the university in obtaining much theoretical and practical information on management and accounting for large corporations. Relatively little information relating to the small businesses typical of Uruguay is available. Further, none of this information considers the Uruguayan environment, especially at the cultural level. For example, internal rate of return and discounted cash flow calculations are available to multinational managers. The commonly used measure by small businesses, if a profitability analysis is undertaken, is the payback period.[19] This preference is understandable considering the managers' cultural objectives and the highly inflationary and volatile environment.

Foreign accounting and reporting policy-making bodies provide important input for policy in Uruguay, both by the Colegio and the government. Their utility is in part derived from the presence of accountants from international auditing firms trained in the application of foreign accounting and reporting policies. In addition, before being adopted, the pronouncements are strained through an environmental filter by Colegio members. The Colegio also has the advantage of using an eclectic approach when deciding which country's pronouncements on which to rely. For example, after considering the range of uniformity provided by the British general criteria system and the French chart of accounts system,

[19] Bonanata et al., *La función finanzas,* 209–22.

the government decided to adapt an intermediate Argentine format of uniform financial statements.[20]

Uruguayan affiliates of multinational corporations necessarily adopt the sophisticated accounting systems of their parents both for external and internal reporting needs. This, however, creates several problems for the Uruguayan affiliate. First, as a practical matter, fiscal year ends typically fall during a company's peak operating cycle since the climate is reversed from the north. Second, the extensive financial planning and precise accounting data are of little utility in the unpredictable economic environment, especially to executives who prefer centralized, ad hoc decision making. The cost of compiling accurate data (if possible) is greater than any benefit local management might receive since a two-tiered accounting system would be needed. As a result, most accounting data are sent to the head office and receive little attention from local managers.[21]

In the case of banking institutions, with foreign ownership or participation, credit risk evaluation policies are set locally rather than by the parent. This could be due in part to the fact that most foreign banks have been operating in Uruguay for decades and recent foreign investment has been through the acquisition or merger of existing banks. In addition, in the case of multinational subsidiaries operating in Uruguay, a guarantee is usually obtained from the parent corporation, thus substantially reducing the risk. The result is that little direct foreign influence exists on financial information, on loan officers' analysis, or on decision-making procedures.

Accounting and Reporting

The accounting and reporting system for foreign corporations and subsidiaries is generally similar to that of the country of the parent company. As such, theory, policy, and practice assume the characteristics of the parent's country. In a sense, the system operates separately from the Uruguayan systems and exists in a vacuum that ignores the Uruguayan environment.

GOVERNMENTAL

Influences

As a result of the social crisis of the 1960s, the military regime instituted major program reforms after 1973. The accounting curriculum was modernized to include electronic data processing

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[20] Alonso et al., *Estados Contables Básicos* 105–10.
[21] Bonanata et al., *La función finanzas,* 221.

and more courses in administration, and degree programs were shortened to be comparable to those of U.S. universities. The result was that the university was under direct control of the executive power and shared its free market orientation.

The government has increased its interest in developing better accounting and reporting practices to provide the information necessary for the effective functioning of the free market economy. Although the military government needs little popular support for its actions, it has generally maintained close consultations with the Colegio in setting new policies. The major reform instituted thus far is the requirement that the uniform financial statement format be used for corporate reporting to shareholders and to the Inspección General de Hacienda, the agency charged with monitoring corporations. These statements form the basis of the government's accounting and reporting system and will be described in that section.

The income and capital tax provisions now require that uniform financial statements be used as a base from which the necessary tax adjustments are made. The major book and tax differences include related party assets, which must be included along with the entity's fixed assets, which must be revalued according to government indexes, plant and machinery investment deduction, and the inflation adjustments. With the exception of related-party assets and fixed asset revaluations, tax accounting methods are not found in financial accounting and reporting.

Over the last twenty years, the government has instituted financial reporting regulations in an effort to allow better credit risk evaluation and to decrease loan default rates. In 1965, the first law was enacted requiring banks to obtain financial statements before issuing credit. More recently in Circular 1070, the Banco Central (Uruguay's central banking authority) substantially increased the requirements for loans and lines of credit, totaling over $215,000 (U.S.). These requirements include the presentation of financial statements adjusted for the effects of inflation and the performance of a limited review by a public accountant. In addition, for loans or lines of credit totaling more than $107,000 (U.S.), a statement of projected cash flows, on a monthly or quarterly basis, must be obtained for at least one year.[22]

Accounting and Reporting

The Inspección General de Hacienda (IGH) requires that all corporations present financial statements to stockholders and publish summary statements in the official newspaper. Decree 827/

[22] Price Waterhouse, *Su empresa y su banco* (Montevideo: Price Waterhouse, 1982).

976 and the accompanying regulation require the presentation of uniform financial statements and provide guidelines on the reporting and accounting methods allowed. The objectives of the decree were to facilitate the review process and to "facilitate and perfect the economic and financial analysis of the enterprise on the part of public or private organizations or by interested third parties."[23] Although the idea for uniform financial statements was initiated by the Central Bank, the final form adopted by IGH was formulated in close consultation with the Colegio. The final form of the uniform statements was adapted from the Argentine model after considering current Uruguayan practices.[24]

Decree 827/976 requires the presentation of a statement of financial position, statement of income, accompanying notes, and four appendices: Chart of Cost of Goods Sold and Services Rendered; Chart of Expenditures of the Period; Chart of Fixed Assets, Intangibles and Investments in Real Property — Amortization; and Statement of Changes in Net Worth. The distinction is that annexes do not have to be presented at the annual stockholders' meeting. To clarify the specific requirements, the IGH established general principles and disclosure requirements, and issued sample uniform statements.

The decree lists four general principles to be followed in preparing the statement of financial position: (1) unrelated accounts or accounts with debit and credit balances are not to be combined as a line item; (2) valuation adjustments or contra accounts are to be presented on the face of the statement for such items as provisions for bad debt and devaluations and amortization of fixed assets; (3) valuation criteria and methods must be disclosed; and (4) assets and liabilities must be classified as current or noncurrent.[25]

Additional disclosure in the form of notes to the financial statements is required "when the information that is provided by the financial statements is insufficient to fully reach the basic requirements of accounting information."[26] Specifically, the regulations require disclosure in the following areas: contingencies, pledged assets or capital, contractual rights over assets, valuation criteria and methods, and changes in accounting methods.

The sample uniform financial statements list common line items

[23] Inspección General de Hacienda, *Nota al Ministerio de Economía y Finanzas* in Alonso et al., *Estados Contables Básicos, 178.*
[24] Alonso et al., *Estados Contables Básicos,* 105-7.
[25] Ibid., 113–14.
[26] Inspección General de Hacienda, *Instrucciones decreto 827/976,* párrafos 5.1, in Alonso et al., *Estados Contables Básicos,* 150.

and leave room for additional items as needed. The decree does not require the use of a specific chart of accounts but rather allows firms to use their own format so long as the information is similar to that of the uniform statements.

Compliance with the uniform statement format has been almost complete. The majority of the corporations have their public accountants compile, or at least review, the statements. The general principles, to a lesser degree in the first several years, are also generally followed. The disclosures required are still not generally included with the uniform statements. Practicing accountants expressed the belief that as corporations become accustomed to providing the additional disclosure, compliance will be more forthcoming.

CONCLUSION

By using a holistic approach to describe the evolution of enterprise accounting and reporting in Uruguay, the reasons such financial information plays a minor role in managers' or creditors' decision making become apparent: The conflict, between cultural values and other environmental factors and the financial information generated through an accounting system developed externally, is readily apparent in Uruguay. Thus, any hope for a more functional accounting system lies with the Uruguayan's development of a system that meets their objectives and considers their environment.

The State of Accounting Education in Nigeria

PATRICK I. OSIEGBU*

The education of professional accountants in Nigeria varies according to the professional entry level desired. Applicants seeking to qualify as professional accountants (called chartered accountants in Nigeria) can choose one of two methods to prepare for this profession. One method is to pass the qualifying examination for membership in the Institute of Chartered Accountants of Nigeria and to complete the prescribed commercial training course in any of the country's recognized training centers (RTC). The alternative method is for the applicant to go outside Nigeria to obtain professional qualification that the Nigerian Institute of Chartered Accountants will accept as the requisite academic and practical experience to be recognized as a professional accountant.

In Nigeria, a professional accountant performs the following functions:

1. Auditing and certifying financial statements for clients for fees;
2. Preparing financial statements for clients, investigating matters relating to their clients' financial affairs, and outlining or preparing financial plans for a fee; and
3. Acting as an attorney on tax matters, such as declaring, applying, or filing complaints and claims for a tax refund from the government; preparing tax returns; and advising clients on taxation matters for a fee.

HISTORICAL CONTEXT OF ACCOUNTING EDUCATION

Accounting education in Nigeria may be as ancient as the profession in other countries. The establishment of the actual historical background of Nigerian accounting is hampered by lack of early

* Patrick I. Osiegbu is a member of the Department of Accounting, Faculty of Management Science, University of Port Harcourt, Nigeria.

records, although some were kept as marks on walls, on graves, in sand, and on tree trunks. Inadequate data exist to reveal any trend in the development of Nigerian accounting.

Modern accounting education in Nigeria has been influenced by the British accounting eductional pattern as a result of the former colonial relationship between the countries. Before 1965, Nigerians had to take the qualifying examinations of the Institute of Chartered Accountants of England and Wales or of other international institutes to become a professional accountant.

Accounting education was introduced to Nigeria by British accountants who were sent there to protect the financial interests of British firms. The development of professional accounting in Nigeria was slow because of World War II[1]; after the war, however, the profession emerged although little interest was expressed in organizing a Nigerian professional accounting body until after the country gained its independence in 1960. Before 1960, both foreign and Nigerian chartered and nonchartered accountants with various backgrounds and professional certificates worked in Nigeria. At that time, most of the Nigerian professional accountants obtained their professional accounting qualifications or certificates from overseas, mainly in the United Kingdom. To obtain their certificates, candidates met the examination and experience requirements of one of several British professional bodies.

ASSOCIATION OF ACCOUNTANTS

In 1958, Herbert Keeling, the city treasurer of Worthing, Great Britain, visited Lagos, Nigeria, on a library assignment.[2] During the visit, he met Frank Oladipo Coker, who was the municipal treasurer of Lagos. Mr. Coker held a reception for Mr. Keeling and introduced him to the fourteen professional accountants resident in Lagos. During the reception, Mr. Keeling suggested the formation of an accounting association to attract local interests. The suggestion materialized in 1960 with the founding of the Association of Accountants. In succeeding years, the Association attracted an increasing number of members from the business community, and it also became an adviser to the government on some issues of interest to the business community.[3]

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[1] E. O. Ogunjimi, "Accounting Education in Nigeria," in *Management Training and Development in Nigeria*, ed. Usman A. Zahradeen (Lagos: Centre for Management Development, 1981), 104.
[2] Ibid., 105.
[3] P. I. Osiegbu, "The Effects of Inflation and Recession on Selected Companies Final Accounts in Nigeria," *Journal of Management* (April 1986), 3–14.

The Association of Accountants was a voluntary organization incorporated in 1960. Its inaugural general meeting was held in 1960. Its membership consisted of the various accounting professional certificate holders from the United Kingdom and the United States.

The main objectives of the Association were (1) to provide a central organization for accountants and auditors in Nigeria; (2) to maintain strict standards of professional ethics; (3) to provide for training examination, and local qualifications of accounting students.[4]

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF NIGERIA (ICAN)

The Association of Accountants then directed its efforts to obtain statutory recognition similar to other national accounting bodies. The struggle for this statutory recognition met with opposition because of conflicting interests, which were later resolved. Among the problems, according to Gbenedio,[5] was the basis of membership in the Institute. University graduates in accounting or its equivalent and some practicing accountants then practicing in Nigeria wished to become registered chartered accountants. Some had neither an accounting degree nor a professional certificate from a professional accounting organization. A compromise recognizing some as professional accountants and others as "registered accountants" was achieved. The compromise led to the statutory recognition of the Association of Accountants in 1965 as the Institute of Chartered Accountants of Nigeria. Under Section V, Act No. 15, enacted by the Federal Parliament of Nigeria, the Institute was created to regulate professional accounting education and related matters throughout the country. The objectives and duties of the new Institute were to (1) determine the standard of knowledge and skill to be attained by prospective professional accountants and to raise these standards appropriately; (2) maintain a register of fellows, associates, and registered accountants; and (3) to perform, through the Council of the Institute, all other functions conferred on it by the Act.

INSTITUTIONAL CONTEXT OF ACCOUNTING EDUCATION

Eductional Structure

In Nigeria, the method of education and training of professional accountants had been through articleship and approved student-

[4] Institute of Chartered Accountants of Nigeria, "Professional Conduct for Members" (ICAN, 1979), 4–7.

[5] P. O. Gbenedio, "The Challenge to Accounting Profession in Developing Country: The Nigerian Case" (Doctoral Dissertation, University of Cincinnati, 1977).

ship.[6] The Institute therefore has two classes of students: articled clerks who train under the supervision of chartered accountant members of the Institute in public practice; and approved students who train under the direct supervision of chartered accountant members of the Institute in commerce, industry, or government. The Institute has established no formal school to train accountants.

In 1970, the ICAN Council recognized the need for structured training programs offered by full-time institutions and therefore accredited some institutions of higher learning to offer professional accounting courses. These institutions are as follows:

Offering undergraduate courses in accounting for the Bachelor of Science degree
University of Benin, Benin
University of Lagos, Lagos
University of Nigeria, Nsukka
University of Ife, Ife
Ahmadu Bello University, Zaria
University of Maiduguri, Maiduguri
University of Port Harcourt, Port Harcourt (awaiting accreditation)

Polytechnic/College of Technology leading to higher-level courses in accounting
Yaba College of Technology, Lagos
Polytechnic College, Ibadan
Auchi Polytechnic, Auchi
College of Technology, Calabar
Kaduna Polytechnic College, Kaduna
Institute of Management and Technology, Enugu
Kwara State College of Technology, Ilorin
College of Science and Technology, Port Harcourt
Federal Polytechnic, Akure
Lagos State College of Technology, Lagos
Ogun State Polytechnic, Aboekuta
Federal Polytechnic, Idan[7]

The Institute's accreditation plan is open to those schools that wish to gain exemptions for their students on some parts of the Institute's qualifying examinations.

[6] S. O. Okpechi, "Accountancy Profession in Nigeria" in *Development of Management Education in Nigeria,* ed. Pita O. Ejiofor (Lagos: Center for Management Development, 1985), 339.

[7] Institute of Chartered Accountants of Nigeria, *Guide to Recognized Training Centres on the Training of Approved Students* (ICAN, 1983), 4–7, 12.

Exhibit 1 indicates the amount of time the Institute requires to complete the training to become a professional accountant. The different entry levels to the training program are listed in column 1. The school certificate is equivalent to a high school diploma; the advanced level or ordinary national diploma is equivalent to a junior college diploma. The graduate may have a nonaccounting (nonrelevant) major or an accounting (relevant) major. Columns 2, 3, 4, 5, and 6 list the number of months required for each level before proceeding to the next one. Applicants can gain professional membership in the Institute by serving under a training contract with an RTC in Nigeria and by passing the Institute's examinations.

Holders of recognized relevant degrees or diplomas are permitted to proceed directly to ICAN Professional II Examinations. These candidates are expected to pursue professional training for a twenty-four-month period. The Institute recognizes these degrees or diplomas if it is satisfied that the awarding institution of higher learning is qualified to provide instruction comparable to or higher than the Professional I Examination. Such institutions must have at least two professionally qualified members of the Institute on the staff.

LAWS OF ASSOCIATIONS AND ORGANIZATIONS AFFECTING ACCOUNTING EDUCATION

Accounting education in Nigeria has reached the advanced stage that requires various laws for different professional accounting bodies. The act that created ICAN in 1965 gave it full power to

Exhibit 1. Minimum Experience Requirements to Become a Professional Accountant in Nigeria (in Months)

	Time required to pass				
		Professional		Total	
Level of entry to the profession	Foundation	Level I	Level II	Passing exams	Before admission (months)
School certificate	18	18	12	48	60
Advanced level or CND	12	18	6	36	48
Graduates or HND (nonrelevant)	12	12	6	30	36
Graduate or HND (relevant)	—	—	12	12	24

Source: Training of Approved Students Handbook (ICAN, 1983), 5.

regulate the Nigerian profession. In pursuance of this objective, the Institute established the Education Committee in 1974.[8] The Committee recommends the qualities and standards a prospective professional accountant must attain before practicing the profession.

The Joint Consultative Committee, a subcommittee of the Education Committee, proposed the concept of higher institutions of learning in 1976. It also proposed the idea of recognized training centers for all graduates to attend. The report of the Education Committee was accepted in principle, so the Council of the Institute directed the Committee to devise a method for the practical implementation of this proposal. The Institute has used its committees and its professional code of conduct to set rules and regulations for accounting education in Nigeria.

As a result of ICAN's efforts, the Nigerian Accounting Standards Board (NASB) was formally established in 1982.[9] The members of NASB include the following representatives: Central Bank of Nigeria (CBN): Federal Ministry of Finance (FMF); Nigerian Accounting Teachers Association (NATA); Nigerian Association of Chambers of Commerce and Industry, Mines and Agriculture (NACCIMA); Nigerian Bankers Association (NBA); Nigerian Stock Exchange (NSE); Securities and Exchange Commission (SEC); and the Institute of Chartered Accountants of Nigeria. NASB's objectives are the following:

1. To formulate and publish, in the public interest, accounting standards to be followed in preparing financial statements;
2. To promote the general acceptance and adoption of such standards by preparers and users of financial statements;
3. To promote and sponsor legislation, when necessary, to ensure that standards developed and published by the Board receive nationwide acceptance, adoption, and compliance; and
4. To review periodically the standards developed by the Board as a result of changes in the social, economic, and political environment in Nigeria.

The NASB Council is responsible for issuing statements of accounting standards (SAS) following the development processes stipulated in the NASB constitution. NASB regulates the private sector, although the public sector has no acceptable accounting

[8] Institute of Chartered Accountants of Nigeria, *The Education and Training Regulation* (ICAN, 1980), 1.
[9] Nigerian Accounting Standards Board (NASB), *Newsletter* (May 1984), 1.

standards that would help to reduce fraud and to enhance efficienty.[10] ICAN has enjoyed a monoppoly in regulating financial and management accounting in Nigeria.

EDUCATIONAL REQUIREMENTS TO ENTER THE PROFESSION

General Education Curriculum

An individual who wishes to register as a student with the Institute to seek the professional accounting certificate must obtain a certificate of eligibility. Minimum educational requirements to obtain this certificate are the following:

1. Matriculation examination of any university recognized by the Council, including passing examinations in English and mathematics;
2. A school certificate with credit in five subjects including English and mathematics from any of the following examination bodies: West African Examination Council, Oxford and Cambridge School Examination Board, Cambridge Overseas Examination Board, or from any body approved by the Council of the Institute;
3. A high school certificate (HSC) or general certificate of education (advanced or A level) in two subjects if the candidate passed English and mathematics courses at one of those levels; and
4. A degree from any university recognized by the Council.

The Council allows English literature courses to be substituted for English language courses and accounting or statistics courses to be substituted for mathematics courses. In addition to English and mathematics, other subjects are economics, commerce, business studies, government, and biology.

Subjects Offered by the Institute

Business subjects that the Institute offers are economics, quantitative analysis, business management, and Law I and II. The accounting subjects are Accounting I, II, and III; cost accounting; auditing and information processing systems; Taxation I and II; auditing and investigation; management accounting; and financial management.[11]

To be a professional accountant in Nigeria, an individual must take and pass five business and ten accounting courses. Graduates from higher institutions of learning who have been admitted to

[10] *Daily Times*, "ICAN Boss on Need to Look inwards in Training Accountants," *Daily Times of Nigeria* (24 March 1987), 10.

[11] Institute of Chartered Accountants of Nigeria, *Guide to Recognized Training Centres*, 12.

recognized training centers are eligible to take the Professional Examination II after twelve months of training in the RTCs. All other approved students must be eligible to take the examinations listed in Exhibit 2.

An application for exemption from specified sections of the examination is considered after the candidate's previous academic and experience backgrounds have been assessed. When an application is approved, the student is informed of the stage at which to begin the examination. No person who has been exempted from the Foundation Examination can apply for Professional Examination I before completing twelve months of articleship. Holders of certain accounting qualifications recognized by the Institute are tested only in law and taxation.

Examinations are normally held each year in May and November and, at present, in the following cities: Lagos, Benin, Kano, Calabar, Enugu, Ibadan, Akure, Kaduna, Jos, Port Harcourt, and London. At the discretion of the Council, however, examinations may be arranged at other locations.

Examination Results

The results of the examination are mailed to each candidate, but further correspondence relating to individual results is not permitted. No information as to individual marks can be given.

A candidate who has attained a sufficiently high score on the entire examination but who has score(s) in one or two subjects slightly below the passing grade may be referred for additional study in the specified area(s). Candidates who do not pass the

Exhibit 2. Structure of the ICAN Curriculum

Foundation	Professional I	Professional II
Paper 1, Accounting I	Paper 6, Accounting II	Paper 11, Accounting II
Paper 2, Economics	Paper 7, Cost Accounting	Paper 12, Auditing and Investigation
Paper 3, Quantitative Analysis	Paper 8, Auditing and Information Processing Systems Information	Paper 13, Management Accounting
Paper 4, Law I		
Paper 5, Business	Paper 9, Law II	Paper 14, Financial Management
	Paper 10, Taxation I	Paper 15, Taxation II

examination in the referred subject(s) are required to rewrite all the papers in the level. Examination regulations are very stringent. Failure to cooperate with examination supervisors or suspicion of seeking assistance from or providing it to another candidate may result in penalties for the candidate.

Examination entries cannot be withdrawn after the closing date in any circumstances. The fees paid for an examination will not be returned or transferred to subsequent examinations if a candidate decides not to or is unable to attend the examination.

The experience required of candidates is based on the nature, scope, and expectations of practical experience that approved students are expected to have obtained during their period of approved articleship. Exhibit 3 indicates the number of weeks of experience a prospective professional accountant must have to be qualified.

THE TEACHERS OF ACCOUNTING

In Nigeria, accounting teachers instruct students in the art of identifying, classifying, and summarizing economic data to the users of accounting information. The teachers may be graduates of a university or a polytechnic school. No clear guideline for qualifications for accounting teachers has been established. The

Exhibit 3. Practical Training Program Required

	Time in weeks for the Private Sector		
		Graduate	
	Nongraduate	Nonrelevant	Relevant
Induction			
In company	2	2	2
General training	10	4	4
Basic accounting data and subsidiary records	20	6	4
Purchasing and other disbursements	16	8	4
Stores	6	2	2
Sales	6	4	4
Data processing	10	6	6
Financial Accounts I	20	10	4
Costing	30	20	12
Management accounts	40	28	16
Financial Accounts II	30	20	20
Other experience	30	22	10
Total weeks	220	132	88

Source: Training of Approved Students (ICAN, February 1983), 12.

teaching of accounting in Nigeria has progressed slowly and without any clear educational policy from the federal government. Academic qualifications for accounting teachers vary from one institution to another. At the university level, the lowest academic qualification is a master's degree in accounting or a related field. The Institute of Chartered Accountants of Nigeria has not specified the academic qualifications because it has not established a formal school of accountancy, although it recognizes some universities and colleges as training centers. (See the list on page 60.) The Institute recognizes the need for professional staff in the schools. It certifies each school after it is satisfied that its curriculum is appropriate and that its staff includes two full-time chartered accountants who are members of the Institute.[12]

EDUCATIONAL ASSOCIATIONS

The Nigerian Accounting Teachers Association (NATA) was formed during the 1974 conference at the University of Lagos. The association held conferences in 1976, 1980, and 1986. NATA's objectives are (1) to promote the study of accounting in order to effect control of business organizations and economic development in general; (2) to improve the methods of accounting instruction; (3) to demonstrate the social benefits of a well-developed knowledge of accounting; (4) to promote the development of accounting principles and standards and to seek their adoption by all users of accounting data/information, including business enterprises, practicing and industrial/commercial accountants, and various government agencies; (5) to encourage and sponsor research in accounting; and (6) to publish or assist in the publication of the results of such research.

Most universities and polytechnic colleges in Nigeria that offer accounting courses also have an accounting students association. These associations do not strongly influence the standardization of the Nigerian accounting profession.

CONCLUSION

The modern accounting profession in Nigeria had its origin in Britain. The arrival of representatives of the British colonial government also brought British capital into the country. To oversee the investment of the British government and of British investors required the services of British accountants in Nigeria. These accountants were generally members of the Institute of

[12] E. O. Ogunjimi and B. O. Ogundele, *Accounting in the 80s* (Nigerian Accounting Teachers Association, 1980), 24–36.

Chartered Secretaries (ACIS) employed to establish and maintain accounting systems in their host country, although they were not professional accountants in their home country. When they arrived in Nigeria, they hired Ghanaians and Sierra Leoncans as technical assistants, and Nigerians were recruited as operatives. As a result, Nigerians were not qualified as professional accountants until 1950. At that time, the first Nigerian, Chief Akintola Williams, qualified as a chartered accountant.[13]

Accounting education did not receive the emphasis given to other disciplines at Nigeria's academic institutions. Accounting education was first offered at the university level by the University of Nigeria, Nsukka in 1960. The Nigerian government has attempted, however, to encourage natives to enter the profession by awarding scholarships to citizens to study accountancy in Britain or the United States. Scholarships were also awarded for articleships in the accounting firms of chartered accountants such as Peat Marwick. The government also established colleges of arts and sciences at Yaba-Lagos, Ibadan, Enugu, and Zaria for Nigerians aspiring to study to become accountants. Students were trained at these institutions to take the intermediate levels of the professional examinations of some British accounting bodies, and candidates who passed the intermediate level examination given by the British professional accounting bodies and who wished to write the final parts of these professional examinations traveled to Britain to complete these professional objectives.

The accounting profession in Nigeria is young; it has been only twenty-two years since it was accorded legal recognition. As a result of its youth as a profession, it must still confront the problems of both inadequate academic and applied training facilities. These problems are further intensified by the lack of accounting teachers in the country.

In addition, graduates of Nigerian universities or colleges of technology have limited opportunities for practical training. This is understandable when one remembers that ICAN has only slightly more than six hundred members in practice to serve the entire country. As a result of these constraints, ICAN still accepts as members and certifies for practice professionals who qualified abroad, as well as foreigners who are members of foreign proces-

[13] D. C. Osuagwu, "The Accounting Profession in Nigeria: Voice from Polytechnic" in *Development of Management Education in Nigeria*, ed. Pita O. Ejiofor (Lagos: Centre for Management Development, 1985), 363.

sional accounting bodies. ICAN has embarked on an accelerated method of training accountants, however, which is a positive factor.

Accounting is an indispensable element in an economy and, as such, is playing and will continue to play a vital role in Nigeria's National Development Plan. Some crucial functions of accounting in this plan are facilitation of planning for credit analysis and as a tool for taxation.

The prospects for the young accounting profession in Nigeria are bright. It is possible, for instance, that the federal government will enact a law requiring every registered or incorporated business organization to maintain a good accounting system and every individual and business enterprise to file annual income tax returns. Such legislation would result in tremendous opportunities for accountants in the country.

In addition, several internal and national economic developments will affect the demands on the accounting profession in the future. To meet these demands, however, the curriculum required by ICAN must not be so technical that it overlooks the development of analytical reasoning. Provisions for a school of professional accountants should also be made, and ICAN must define its academic requirement for accounting instructors.

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A Review of the Objectives of Foreign Currency Translation

ISTEMI S. DEMIRAG*

The consolidation of the financial statements of foreign subsidiaries with those of the parent company has become increasingly important as a result of the growth of international operations and related foreign investments. At the same time, foreign currency translation problems have become more complex, particularly since 1973, when the present international fluctuating exchange rate system became operational. As a result, the financial manager of the multinational firm faced a choice of translation methods using various exchange rates (e.g., current-noncurrent, monetary-nonmonetary, temporal, and closing rate method) that could produce not only significant differences in the financial statements but also misleading information as to the true status and reported profits of foreign subsidiary companies and the group as a whole.

The purpose of this article is to examine the nature and objectives of foreign currency translation, as well as the implications it may have on the consolidation of foreign currency financial statements. The relationship between foreign currency translation and the problem of accounting for price-level changes, specific and/or general, will also be considered.

MEASUREMENT AND TRANSLATION

Many of the arguments supporting or criticizing a particular translation method arise from the variety of assumptions made as

* Istemi S. Demirag is a Lecturer at the School of Management and Economic Studies, University of Sheffield, Great Britain.

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to the objectives of translation and, indeed, to the purposes and users of financial statements.

Many writers appear to be preoccupied with the amounts produced by translation rather than with the nature, objectives, and related assumptions and concepts of the translation process itself. For example, the temporal method has been criticized in part for the effects it has on consolidated historical cost results.[1] Others have suggested a series of ad hoc proposals relating to the translation process designed to produce amounts that are claimed to be more "meaningful," more "realistic," and/or more in conformity with "economic reality" than the figures produced by various proposals.[2] For example, it has been suggested that the selection of a translation method should be based on the most probable (economic) impact on the reporting entity of a movement in exchange rates.[3]

Considering efforts to compensate for the inadequacies of the measurement system and to compete with the complexities of the foreign exchange market, that we have collected a considerable variety of translation methodology and a far-from-uniform application of that methodology in practice is not surprising.[4]

ALTERNATIVE TRANSLATION METHODS

Many variations in translation methods have been suggested and used by accountancy bodies. All of these seem, however, to be based on four major translation methods: the current-noncurrent, monetary-nonmonetary, temporal, and closing rate methods.

The current-noncurrent method (CNC) is the oldest translation approach. Originating in 1930, this method of translating foreign currency statements emphasized conservatism and the subordinate nature of foreign operations in the post-Depression years. Under this method, a foreign subsidiary's current assets and current liabilities are translated at the exchange rate existing at the time of the balance sheet (i.e., current exchange rates). Noncurrent assets and liabilities are translated at the exchange rate that

[1] M. T. Stanley and S. B. Block, "Accounting and Economic Aspects of SFAS No. 8," *The International Journal of Accounting* (Spring 1979), 135–55.
[2] P. H. Edey, "Accounting Policies for Exchange Gains and Losses on Long-Term Monetary Items," *Accounting and Finance* (November 1985), 19–40.
[3] A. F. Smith, "Temporal Method: Temporary Mode?" *Management Accounting* (US) (February 1978), 25.
[4] See S. J. Gray, *Information Disclosure and the Multinational Corporation* (New York: John Wiley, 1984), 105; and C. W. Nobes, "A Review of the Translation Debate," *Accounting and Business Research* (Autumn 1980).

prevailed when the respective assets were acquired or liabilities incurred (i.e., historical exchange rates).

The current-noncurrent translation method lacks adequate conceptual justification. Requirements of current and noncurrent assets and liabilities do not explain why such a classification plan should determine the rate to use in the translation process. Although it does not follow any theoretical model of translation, this method seems to respond to a particular model of foreign operations and exchange rate movements. Foreign operations were therefore considered from a strictly national perspective and were thought to differ materially from domestic operations and investments. The purposes of foreign investment were generally to facilitate exportation or importation and to participate in profits that could be remitted promptly to the parent-company investor in its own currency. Therefore, an obvious requirement was a measure of the remittable domestic currency value of the foreign resources.

The monetary-nonmonetary method (MNM) advocated by Hepworth[5] in the 1950s requires that monetary assets and liabilities be translated at the current rate of exchange. All nonmonetary items are to be translated at the historical rate. The MNM method is therefore related to the nature of the monetary values of assets and liabilities.[6] This method has been largely criticized for its effect on profits when the parent currency is devalued, not on theoretical grounds. As Nobes observes, the practical acceptability of a translation method largely depended then, as now, on its ultimate impact on consolidated profit figures under current economic conditions.[7]

The CNC method, however, treats stock as a non-exposed item (i.e., translated by the historical rate) and long-term debt as exposed (i.e., translated by the current exchange rate.) The second difference is significant because long-term debt is often the largest single component of a company's accounting exposure. The MNM method can produce very large translation (and real) losses if the parent or one of its subsidiaries holds loans that are denominated in a currency which is appreciating vis-à-vis the parent currency. Indeed, this was the case for the United States in the early 1970s and, to a lesser extent, for U.K. companies holding large deutschmark and Swiss franc loans.

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[5] S. R. Hepworth, *Reporting Foreign Operations* (Ann Arbor, Mich.: University of Michigan, 1956).

[6] This distinction between monetary value assets and liabilities and nonmoney value items had already been recognized. See W. T. Baxter and B. S. Yamey, "Theory of Foreign Branch Accounts," *Accounting Research* (April 1951), 117–32.

[7] Nobes, "Translation Debate," 421.

The lack of theoretical perspective for the MNM method led the Financial Accounting Standards Board (FASB) to commission Accounting Research Study (ARS) No. 12 by Lorensen.[8] Following its distribution, a new financial accounting standard (FAS No. 8) was introduced in 1975.[9] Both documents proposed and supported the temporal method principle; this support introduced a major conceptual development.

The temporal method requires that translation rates be determined by the measurement basis used (i.e., balance sheet items carried at historical cost amounts are to be translated using relevant historical rates; items carried at a current or future value are translated at the closing rate. The main concern of the temporal method is to preserve the underlying accounting principles so that consolidation is possible on a consistent basis. This method also emphasizes that the translation process should not be used to "improve" any inadequacies in the underlying principles of the accounting system.

The closing rate method requires that all balance sheet items be translated at current exchange rates. The main objective of this method is to report a more "realistic" exchange gain or loss. Certainly, the basis of the closing rate "theory" did not develop from either an identification of the translation problem as an integration/comparability problem or a need to achieve consistency with the measurement attributes used in the foreign statements. Furthermore, the definition of translation as a measurement conversion process was not considered. Instead, the closing rate method was supplemented by the "piecemeal" reasoning of other individual closing rate proponents; the basic ideas developed by Hepworth and Lorensen were not considered.[10]

The rapidly changing history of translation theory and practice reflects the confusion surrounding the translation of foreign currency financial statements. A brief chronology relating to the practices in the United States and the United Kingdom is provided in Appendix A; information presented there indicates that the closing rate method clearly has emerged relatively recently as the

[8] Leonard Lorensen, "Reporting Foreign Operations of U.S. Companies in U.S. Dollars," *Accounting Research Studies No. 12* (New York: American Institute of Certified Public Accountants, 1972).

[9] Financial Accounting Standards Board, *Accounting for the Translation of Foreign Currency Transactions and Foreign Currency Financial Statements,* SFAS No. 8 (Stamford, Conn.: FASB, 1975).

[10] Hepworth, *Reporting Foreign Operations,* and Lorensen, "Reporting Foreign Operations."

most acceptable translation method to professional accounting bodies on both sides of the Atlantic. Whether this method will continue to be so is not clear.

NATURE AND OBJECTIVES OF THE TRANSLATION PROCESS

Procedures for translation have been widely discussed in the literature of translation both in the United Kingdom and the United States. The nature and objectives of translation had been neglected, however, prior to the publication of Lorensen's ARS No. 12 in 1972.[11] That document, the FASB's subsequent discussion memorandum,[12] and, in particular, recent articles by Patz and Clarke on the art of translation and construction of price parity,[13] have made some progress in clarifying the nature and objectives of translation theory.

Lorensen suggested that translation is a "measurement conversion process" and that the process should not change the original accounting principles used in foreign balances. The definition of translation, therefore, does not imply any attempt to convert foreign currency items physically into reporting currency units of money either currently or in the future. Translation is regarded simply as a neutral restatement process designed to generate the foreign accounts in a different unit of measure. The unit of measure Lorensen supports is that of the parent-company currency.

The assumption that there is no attempt to convert foreign balances into the reporting currency has been questioned by some notable writers.[14] These authors have argued that exchange rates are used in international money markets to convert currencies. Therefore, the use of exchange rates for accounting translation assumes that translation of foreign balances implies physically converting foreign currency balances into the reporting currency

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[11] Lorensen, "Reporting Foreign Operations."

[12] Financial Accounting Standards Board, *An Analysis of Issues Related to Accounting for Foreign Currency Translation — A Discussion Memorandum* (Stamford, Conn., FASB, 1974).

[13] D. H. Patz, "The State of the Art in Translation Theory," *Journal of Business Finance and Accounting* (Autumn 1977), 311–25; and Idem, "A Price Parity Theory of Translation," *Accounting and Business Research* (Winter 1977), 14–24; Idem, "A Price Parity Theory of Translation: A Reply," *Accounting and Business Research* (Winter 1978), 66–72; Idem, "Price Parity Translation: Methodology and Implementation," *Accounting and Business Research* (Summer 1981), 207–16; and F. L. Clarke, "Patz on Parities, Exchange Rates and Translation," *Accounting and Business Research* (Winter 1978), 73–77.

[14] Patz, "Art in Translation" and "Price Parity Theory," and George M. Scott, "Financial Control in Multinational Enterprises — The New Challenge to Accountants," *International Journal of Accounting* (Spring 1972), 61.

unit of money. This practice also assumes that foreign subsidiaries exist largely to provide cash on a short-term basis for the parent company.[15]

Many of the differences in approach suggested by accountancy bodies and various writers stem, however, from differences with respect to the unit of measure. The main question is whether the foreign accounts should be measured in terms of the reporting currency or the local currency in which the accounts are maintained. This choice arises from the fact that every currency unit (U.S. dollars, British pound, German mark) is both a unit of money and a unit of measure in accounting. Therefore, it is feasible to express an asset in the reporting currency denomination and at the same time to measure it in terms of a foreign currency unit of measure, just as an asset can be expressed in a monetary unit when it is measured in general price-level accounting in terms of its power to purchase goods and services.

The consolidation of foreign accounts clearly indicates the need to express accounts in terms of a homogeneous currency unit, traditionally the reporting currency of the parent company. The appropriate unit of accounting and measurement has, however, been widely discussed.[16] The subject of measurement is a more important one and has been highly debated. As with the objectives of translation, two opposing views exist: the parent and local perspective approaches. That objectives of translation and adjustments for price-level changes will now be reviewed from these two perspectives.

PARENT VERSUS LOCAL PERSPECTIVE

The supporters of the parent perspective argue that the main objective of translation should be not only to express in reporting currency the assets, liabilities, revenues, or expenses that are measured or denominated in foreign currency, but also to measure them in the reporting currency.

In the context of consolidation, the parent perspective requires that foreign financial statements be prepared in conformity with

[15] Patz, "Art in Translation" and "Price Parity Theory."

[16] Mueller lists five possible currency bases that may be appropriate for international financial reporting to investors: legal, transaction, ownership, and dividend or monetary basis (e.g., for ownership basis, choose the currency corresponding to the nation in which most shareholders live). See G. G. Mueller, *International Accounting* (London: Collier-MacMillan, 1967), 218–21. See also N. G. Rueschhoff, "U.S. Dollar Based Financial Reporting of Canadian Multinational Corporations," *International Journal of Accounting* (Spring 1973), 103–11.

parent-company generally accepted accounting principles. Proponents of this position maintain that translation must result in financial accounts comparable in form and content to the parent-company accounts with which they will be integrated. Such translation requires that all material differences in the attributes measured and operating principles followed be eliminated. It is not clear, however, whether the process to eliminate these differences is regarded as part of the translation objective or as a separate process.

The local perspective advocates argue that the main objective of translation is to retain as a unit of measure each currency in which assets, liabilities, revenues, and expenses are valued while expressing them in the reporting currency. For the consolidation of foreign currency statements, it is argued, these statements should be prepared in accordance with the accounting practices most appropriate to the business and economic environment in which the foreign operations occur; "such accounting practices need not necessarily be in harmony with the accounting principles generally accepted in the country in which the parent company is resident."[17] From a consolidation point of view, however, this argument becomes untenable if valid interpretations in the national context of the parent company are to be made.

Various translation approaches incorporating historical rates of exchange relate to a parent-company perspective. These include the current-noncurrent, monetary-nonmonetary, and the temporal methods. The following discussion is confined, however, to the temporal method as an example of the importance of the parent-company perspective of the translation process.

Lorensen, the chief supporter of the parent perspective, suggests that "the attribute of foreign money of most interest from the perspectives of U.S. dollar financial statements is its command over U.S. dollars."[18] With this assumption, which may not be accurate or even necessary, he concludes that the command of foreign currency over dollars can best be reflected if transactions are translated as if they occur in dollars. According to historical cost accounting, monetary items would then be translated at current rates of exchange and nonmonetary items at the exchange rate in effect when the transactions occurred.

This view of the translation process seems to reject the concept

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[17] R. M. Parkinson, *Translation of Foreign Currencies* (Toronto: Canadian Institute of Chartered Accountants, 1972), 14.
[18] Lorensen, "Reporting Foreign Operations."

that it is important or even necessary to recognize that foreign operations are conducted under different economic environments. This view also implies that the approach to translation actually reflects a command over dollars by the foreign currency. For instance, Radebaugh notes that the assets in foreign subsidiaries are not generally bought by the parent company in its own currency and, in many cases, could not have been bought at the historic prices translated at historic rates.[19] Therefore, assets cannot be measured at historical cost in terms of the parent's currency.

Furthermore, it is argued that changing the unit of measure attempts to account for the local and foreign currency transactions of foreign operations as if they were actual reporting currency transactions (i.e., treating the foreign operation as if it were a domestic branch operation and ignoring the influence of a foreign environment).

But does translation attempt to simulate what the cost of a foreign plant would have been had it been located in the country of the reporting currency? The answer to this question must be "no." The variety of factors that determines the plant's cost in the foreign location is recognized by the translation process through the measurement system and then these costs are expressed in the reporting currency.

Other opponents of the parent perspective method argue that the use of the parent's unit of measure for the financial statements may result in the loss of some of the significance of the relationships of items (e.g., ratios) in the original financial statements prepared in the foreign country. However, as Flower observes, the loss of ratio information is largely due to the historical cost measurement system and to the necessity to translate different items at different rates to achieve consistency with the measurement bases employed rather than to any flaw with the translation process itself.[20] With a different measurement system, such as current cost accounting, such criticism would disappear because all items would be measured at current value and would therefore be translated at current rates.

The local perspective argument, on the other hand, is used to support a variety of proposals; it is a type of all-purpose argument. For example, this argument is often quoted in support of the

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[19] L. H. Radebaugh "The International Dimension of the FASB — Foreign Currency Translation," *International Journal of Accounting* (Fall 1974), 60.

[20] J. Flower, *Accounting Treatment of Overseas Currencies: A Background Study* (London: Institute of Chartered Accountants in England and Wales, 1976), 28.

closing rate method[21] and is also used to support the purchasing power parity theory of translation.[22] Further, the local perspective is used to support the nonrecognition of foreign exchange gains and losses in the profit statements,[23] or alternatively in the recognition of exchange gains and losses but in a different form from those recognized by traditional translation theories.[24] The closing rate method, however, is used to illustrate this view in the following discussion.

An important point in the translation debate is whether the objective of the translation process should be to capture the essence of operating in a foreign environment or to ignore the importance of the foreign environment. From these questions, the local perspective argument developed. This begins with the distinction between "dependent" and "independent" foreign operations. Although there has been little in the way of criteria to distinguish between the two, Parkinson does cite several types of foreign operations that would qualify as extensions of the parent company.[25] Although his examples are neither exhaustive nor explicit in their classification as extensions of parent companies, his article provides insight into the general characteristics of both types of foreign operations and attempts to clarify the two operations. An independent operation, on the other hand, is generally described as an essentially self-contained and self-financing operation that is not dependent on an affiliated domestic operation.

Although the results of dependent operations may legitimately be translated from the parent perspective (using parent-company currency as the measurement base), Parkinson suggests that the perspective to incorporate translating independent operations should be that of the local operation. In other words, rather than translate "as if" the transactions had been in parent-company currency, the translation process should recognize that the transactions actually

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[21] See the Institute of Chartered Accountants in England and Wales, *Members Handbook. Statement No. 25* (London: ICAEW, 1968), par. 14; and the Institute of Chartered Accountants of Scotland, "Treatment in Company Accounts of Changes in the Exchange Rates of International Currencies," *Accountant's Magazine* (September 1970), 418.

[22] Patz, "Art in Translation."

[23] Parkinson, *Translation of Foreign Currencies*, 102.

[24] M. M. Deupree, "Translating Foreign Currency Financial Statements to U.S. Dollars," *Financial Executive* (October 1972), 65.

[25] Parkinson does not provide specific criteria but does provide examples of foreign operations that would qualify as extensions of the parent company (e.g., dependent operations). "A foreign company whose activities consist of purchasing, manufacturing, processing largely for sale to a Canadian Parent." See Parkinson, *Translation of Foreign Currencies*, 117.

occurred in the local currency.[26] It is on this basis that Parkinson supports the view that the foreign currency unit be retained as the unit of measure and that the relationships of items or ratios in the financial statements prepared in the foreign currency be preserved by the translation process. Only the closing rate method achieves these objectives by multiplying all foreign currency account balances by a constant.

The supporters of the parent perspective (e.g., the temporal method), would argue, however, that under historical cost accounting, the local perspective (i.e., the closing rate method) of translation leads to a meaningless combination that is neither historic cost nor valuation. Hinton calls this "conceptual and practical nonsense."[27] Storey argues that it leads to "nothing except the product of multiplying two unrelated numbers."[28] Furthermore, it may also be simplistic to believe that a variety of influencing factors can be neatly surrogated by grouping foreign operations as "dependent" or "independent." A translation method chosen under each classification is unlikely to coincide with the underlying feature of "dependent" or "independent" operations.

As a proponent of consolidated financial statements, Earl states that if parent and local perspectives are used in the same consolidated group accounts, depending upon the extent of independence, the outcome would be similar to adding "apples and oranges."[29] In this manner, supporters of the parent perspective, including Lorensen and Flower, argue that if a foreign subsidiary is "independent" and not created simply to remit to the parent company, subsidiaries' financial accounts should not be consolidated but should be treated by the equity method.

In this regard, Walker describes the many conflicting objectives of consolidated statements and states that full consolidation may not be the correct approach for subsidiaries and may even be misleading for partially owned foreign operations.[30] Nobes also raises certain questions regarding the purpose of consolidation:

> Are consolidated statements intended to amplify parent company statements, to be a more realistic form of parent company statements, to represent the group as if it were a single entity, or to perform some other purposes?[31]

[26] Ibid., 1972.
[27] R. P. Hinton, "Foreign Currency Transactions," *Accountant* (4 May 1978).
[28] R. K. Storey, Appendix to ARS 12, 1972.
[29] M. Earl, "Hedging Attitudes on Accounting Exposure," *Accountancy Age* (29 May 1981), 13.
[30] R. G. Walker, *Consolidated Statements* (Arno Press, 1978), 15.
[31] Nobes, "Translation Debate," 6.

All of these arguments tend to indicate a lack of precise agreement as to what the purpose of consolidation should be.[32] The objectives of consolidation and translation once again become the key concerning arguments for and against each translation method used in practice.[33] For example, if the objectives of consolidated statements are accepted as providing information to decision makers in a familiar currency framework and as facilitating comparisons, the closing rate method (local perspective) seems sound. If, however, the view that the consolidated statements intend to amplify parent-company statements and to represent the group as if it were a single entity, the temporal method (parent perspective) seems preferable. This lack of clarity concerning the objectives of consolidated statements undoubtedly causes much of the confusion in the translation debate.

ECONOMIC OBJECTIVES OF THE TRANSLATION PROCESS

A valuation of the future stream of earnings from the foreign subsidiary, in terms of the parent-company currency, is another objective for the translation process.[34] This objective would require a translation rate to produce an exchange gain (or at least to avoid producing an exchange loss, if the economic effect of a rate change appears to be beneficial) and an exchange loss (or at least not an exchange gain) if the economic effect appears to be detrimental. Accordingly, a particular translation method would be chosen so that the resulting gains and losses are compatible with the expected economic effect of a rate change.

This leads one to support the closing rate method (local perspective), which is more likely to result in profits in the same direction as the future earning streams in the parent's currency. In contrast, it is argued the MNM method exposes long-term liabilities, leaving fixed assets and stock unexposed to exchange-rate fluctuations. When the parent company currency loses value, losses will be shown as a result of long-term liabilities, and no gains on fixed assets or stock will occur. This appears to be contrary to the expected future effects of such exchange rate changes.[35] Under

[32] J. R. Nance and R. A. Roemmich, "Foreign Currency Translation: An Evaluation," *International Journal of Accounting* (Spring 1983), 29–48.
[33] See Yuji Ijiri, "Foreign Currency Accounting and Its Transition" in *Managing Foreign Exchange Risk*, ed. R. J. Herring (Cambridge University Press, 1983).
[34] L. J. Seidler, "An Income Approach to the Translation of Foreign Currency Financial Statements," *CPA Journal* (January 1972), 26–35.
[35] See B. Kettel, "Foreign Exchange Exposure," *Accountancy* (March 1978), 86; and Accounting Principles Board, Proposed Opinion, *Translating Foreign Operations* (New York: AICPA, 1972); and J. E. Conner, "Accounting for the Upward Float of Foreign Currencies," *Journal of Accountancy* (June 1972).

the historical cost accounting system, however, such criticism of the translation process is hardly fair. The problem would appear to be with the measurement base itself.

GENERAL VERSUS SPECIFIC PRICE-LEVEL CHANGES

With worldwide price levels rising, the use of historical cost financial statements has been considered inappropriate and even misleading. Despite the growing consensus for the need to adjust statements for inflation, the choice between specific and general price-level adjustments has been the subject of some controversy. Although the adjustments for general price-level changes attempt to preserve the general purchasing power of the enterprise's original monetary capital, adjustments for specific price-level changes strive to preserve the firm's physical capital or operating capability.

The relative merits of each type of price-change adjustment could readily be extended; however, a detailed discussion of this area is beyond the scope of this article. The important point is to recognize that each type of price change has a different effect on the measures of a firm's financial and operating results.[36]

THE RESTATE-TRANSLATE VERSUS TRANSLATE-RESTATE PROPOSALS

Although not suggesting that historical cost statements adjusted for changes in the general purchasing power of the monetary unit are strictly "beyond historical cost" nor indeed that they offer an acceptable solution to the valuation problem, this particular measurement proposal has further confused the translation debate. The important question is whether it is better to restate the accounts of foreign subsidiaries for foreign inflation using a general purchasing power index (CPP) and then to translate at the current rate the adjusted amounts into the currency of the home country or whether it is preferable first to translate them into home-country currency units at appropriate exchange rates (temporal method) and then to adjust for domestic inflation using a CPP index. As Choi observes, the two alternatives can produce significantly different results in the parent company's consolidated statements unless the different rates of inflation happen to be offset coinci-

[36] For example, see G. Whittington, "Capital Maintenance Concepts in Current Cost Accounting: Recent Developments in the United Kingdom" in *External Financial Reporting,* ed. by B. Carlsberg and S. Dev (Englewood Cliffs, N.J.: Prentice-Hall, 1984); and D. S. Morpeth, "Developing A Current Cost Accounting Standard" in *British Accounting Standards, The First 10 Years,* ed. R. Leach and E. Stamp (Cambridge: Woodhead-Faulkner, 1981).

dentally in the same accounting period by changes in foreign exchange rates.[37]

The arguments surrounding each of these methods are in fact very similar to those outlined in the earlier discussion of the objectives of translation. The fundamental issue is essentially whether to retain the foreign currency unit of measure or to change to the domestic unit of measure for the final translated statements. Supporters of the local perspective stress that only the restate-translate method identifies the effects of foreign inflation and measures accounts in foreign currency.[38] It is, therefore, proposed that the restate-translate method is better for making resource allocation decisions and for evaluating the operating performance of foreign subsidiary operations.

Rosenfield, who supports the parent perspective assumptions,[39] rejects this method mainly from a financial accounting viewpoint. He argues that the restate-translate method results in diverse standards of measurements in the final translated statements and uses a standard for each foreign country that involves prices of goods and services not relevant to the enterprise or its interested parties. Furthermore, this argument suggests that CPP is a historic cost-based system and, therefore, that historic rates should be used to translate the foreign balances. The translate-restate (CPP) system overcomes these defects first by translating foreign balances at appropriate exchange rates and then adjusting for domestic inflation using a CPP index.

The usefulness of the results given by the translate-restate (CPP) method has been questioned by the advocates of current value accounting.[40] They argue that by restating the financial statements of all subsidiaries, as well those of the parent, by using some form of current value accounting (perhaps current replacement cost), and then by translating all foreign balances at the current exchange rates, the usefulness of accounting information to investors and management would increase. This information could indicate that

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[37] F. D. S. Choi, "Price-level Adjustments and Foreign Currency Translations: Are They Compatible?" *International Journal of Accounting* (Fall 1975), 121–43.

[38] See D. B. Zenoff and J. Zwick, *International Financial Management* (Englewood Cliffs, N.J.: Prentice-Hall, 1969), 500; and Parkinson, *Translation of Foreign Currencies*.

[39] P. Rosenfield, "General Price Level Accounting and Foreign Opertions," *Journal of Accountancy* (February 1971), 56–65.

[40] Choi, "Price-Level Adjustments"; H. M. Schoenfeld, "Comments on International Accounting in an Inflationary Economy," *International Journal of Accounting* (Fall 1968), 165–68; R. H. Parker, "Principles and Practice in Translating Foreign Currencies," *Abacus* (December 1970); and J. Flower, *Overseas Currencies*.

the maximum amount of potential dividend flows an investor could expect to receive in the parent-company currency, thus facilitating the predictions of future cash flows. The information would also allow central or home-office management to evaluate more accurately the relative performance of its subsidiaries since enterprise results would be comparable nationally as well as internationally. Accordingly, this approach seems less vulnerable to criticism on both a theoretical and practical basis.

SUMMARY AND RECOMMENDATIONS

This article attempted to clarify the many different views regarding the nature and objectives of currency translation methods used in practice. Although the mechanics of translations have been widely discussed in the accounting literature of foreign currency translation both in the United Kingdom and the United States, theoretical considerations seem to have been inserted, often as an afterthought or as a rationalization of the specific methods considered. Since 1971, more attention has been given to the theoretical nature of the translation process. Many translation methods have been developed in academic writings and several have been recommended by professional bodies and used in practice in the United Kingdom and the United States.

The current confusion in the translation debate has been assisted by a lack of normative theory construction supported by rigorous empirical research. Perhaps the single most important problem confronting the translation debate is to identify the perspective for translation. Do we want the translation process to capture the essence of operating (1) in a foreign environment or (2) in a domestic environment ignoring the importance of the foreign environment? In a single consolidated reporting system both perspectives cannot be presented and therefore one must be chosen.

The selection of an appropriate perspective may require a consideration of the nature and objectives of foreign investment, motivations which create and maintain foreign subsidiaries and the means available to evaluate them. Universal answers to these questions are of course extremely unlikely, but a more informed understanding of these considerations may allow improvements in the reporting of their operating performances. For instance, if each foreign operation were reported separately or at least the operations in each foreign country were to be specifically reported on in a segmented reporting framework, then there may be no need to respond to the particular model of foreign operations presented.

Further considerations may also be necessary to determine the purpose of consolidated financial statements and the needs and interests of users. Indeed, if one is reporting only for the sophisticated financial analyst, would it be sufficient to report merely the relevant figures in their original foreign currency terms and omit translation altogether?

One of the other key questions and one which is considered more frequently in the economics than the accounting literature is whether exchange rates generated under the "floating" rate regime could constitute acceptable surrogate measures of price parity. If they could not do so then the construction of price parity indices would be the only alternative and this of course presents major "statistical" problems particularly for less developed countries. While the index construction problem and the analysis of exchange rate/purchasing power relationship provide fruitful areas for empirical research, the comparative usefulness and the predictive power of price parity translated information needs to be determined. Again, we must be confident that such information corresponds to the decision models of user groups and is more relevant to their objectives than exchange rate translated information. In the absence of a clear definition and agreement on the objectives of foreign currency translation, accounting standards have developed and continue to develop on a pragmatic basis.

Rather than considering users' needs, as was initially desired, the process of setting accounting standards may be more a political than accounting activity. A questionnaire survey[41] on managements' attitude to FASB confirmed the view that management support for FASB No. 52 arose from its effects on reported profit and market price reactions to changes in method of accounting for foreign currency translation.[42] The supposed conceptual superiority of FASB 52 was not classed as important.

Finally, translated accounting information will not provide useful information until it is based on current value accounting. It is hoped that accounting standard setting bodies on both sides of the Atlantic will soon agree on a current value accounting system which, when used for the translation of financial statements at closing rates of exchange, will provide more useful information to their users.

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[41] T. G. Evans and W. R. Folks, Jr., "Analysis of the Impact of Statement 52 on Disclosures of the Effects of Changing Prices" (College of Business Administration, University of South Carolina, Columbia, 1983).

[42] D. A. Ziebart and D. H. Kim, "An Examination of the Market Reactions Associated with SFAS No. 8 and SFAS No. 52," *Accounting Review* (April 1987), 343–57.

APPENDIX A. CHRONOLOGICAL DEVELOPMENT OF STATEMENTS AND STUDIES RELATING TO FOREIGN CURRENCY TRANSLATIONS

	United States	United Kingdom	Method
1931	AICPA Bulletin No. 92		Current-noncurrent
1934	AICPA Bulletin No. 117		Current-noncurrent
1939	Accounting Research Bulletin 4		Current-noncurrent
1953	Accounting Research Bulletin 43		Current-noncurrent
1956	S. R. Hepworth		Suggest Monetary-nonmonetary
1960	NAA Research Report No. 36		Discusses Monetary-nonmonetary
1965	Accounting Principles Board Opinion No. 6		Monetary-nonmonetary
1966	Accounting Principles Board Opinion No. 9		Disclosure of gains & losses under Monetary-nonmonetary
1968		ICAEW No. 25	Closing or historical rates
1970		Research Study	Closing rate
1972	Accounting Research Study No. 12		Suggests temporal
1973	Accounting Principles Board Opinion No. 30		Disclosure of gains & losses under Monetary-nonmonetary
1973	FAS No. 1		Disclosure
1975	FASB Discussion Memorandum		Discusses temporal method
1975		ED 16	Noncommittal but concerned with treatment of exchange differences
1975	FAS No. 8		Temporal method
1977		ED 21	Closing rate or temporal
1977		E II	Closing rate or temporal
1980		ED 27	Closing rate with temporal method only in specified circumstances
1981	FAS No. 52		Closing rate with temporal method only in specified circumstances

APPENDIX A. (cont.)

United States	United Kingdom	Method
1982	SSAP 20	Closing rate with temporal method only in specified circumstances
1982	E 23	Closing rate with temporal method only in specified circumstances
1983	IAS 21	Closing rate with temporal method only in specified circumstances

AICPA = American Institute of Certified Public Accountants
FAS = Financial Accounting Standard
NAA = National Association of Accountants
FASB = Financial Accounting Standards Board
ICAEW = Institute of Chartered Accountants in England and Wales
ICAS = Institute of Chartered Accountants of Scotland
ED = Exposure draft published by the Accounting Standards Committee
SSAP = Statement of Standard Accounting Practice
E = Exposure draft published by the International Accounting Standards Committee
IAS = International Accounting Standard

The Progress of Italian Accounting: Allegro Ma Nontroppo

ANNA MARIA RIVOLA-CLAY and TIMOTHY S. DOUPNIK*

In an article appearing in this journal in 1973,[1] Zappala briefly but throughly described the state of Italian accounting at that time. His investigation found a comparative "lack of progress" in the evolution of accounting in Italy vis-à-vis that of the United States. He identified the following Italian practices as the major causes for this difference: private ownership of company was the prevailing practice; tax avoidance or evasion was widespread; and Italian companies were able to borrow directly from the government, thus avoiding raising their own equity capital. In sum, Italian business did not depend on capital markets for financing; therefore, high-quality financial reporting was not needed. Consequently, as Zappala noted, the independent auditing of financial statements was virtually unknown and was not even required of companies listed on the stock exchanges.

Zappala noted that in 1973, however, a change in the Italian accounting system began. More and more managerial experts stressed the need to provide Italian businesses with the accounting tools necessary to conform with the objective of the European Economic Community (EEC) to create a unified capital market. This ambitious goal required, among other things, that the EEC mandate some form of accounting harmonization among its members. In the early 1970s, in preparation for anticipated EEC-

* Anna Maria Rivola-Clay is an MBA student at the University of South Carolina. Timothy S. Doupnik is Associate Professor of Accounting at the University of South Carolina.

[1] Frederick J. Zappala, "The Current State of the Accounting Profession in Italy," *International Journal of Accounting* (Spring 1973), 111–22.

directed changes, new legislation to reform the Company Act was pending in the Italian Parliament.

The objective of the present paper is to trace the progress in Italian financial reporting and auditing since 1973, concentrating on the primary agents of and the impediments to change. As international accounting textbooks indicate, a nation's accounting system is greatly influenced by a number of important factors including the level of education of its public, its source of business capital, its culture, its economic affiliations, and the extent to which its national laws determine accounting practice.[2]

This paper will attempt to indicate the significant impact of the reform of the Italian stock market and the EEC's Fourth Directive on accounting development in Italy during the past fifteen years, as well as the elements that have hampered progress because of Italy's legalistic approach to promulgate accounting rules. The paper begins with an overview of the Italian legislative and professional environment, especially as it relates to accounting. It then discusses the impact of the reform of the Italian stock exchanges on accounting development and then explores the attempt to integrate the EEC's Fourth Directive on financial reporting into Italian law.

LEGISLATIVE AND PROFESSIONAL ENVIRONMENT

Italian accounting is broadly based on code law (Codice Civile), and any modification to the existing rules requires a lengthy, iterative process that often requires months or years to complete. Progress, as Zappala noted, can indeed be slow; the dismissal and reconstitution of the cabinet, a frequent political event that impacts the Italian legislative system, can delay new legislation by weeks or months. The Italian legislative system includes, however, a means to accelerate the legislative procedure when expediency is critical. The parliament can delegate to the cabinet the power to issue acts ("decrees") that become effective immediately but are subject to subsequent parliamentary approval within two to three months before becoming permanent laws. Typically, the parliament dictates the scope and the objectives of the particular legislation delegated to the cabinet. Although this form of accelerated procedure is used extensively, its efficacy strictly depends on the stability of the cabinet.

The normal legislative process, proposing an act for debate in

[2] See, for example, Jeffrey S. Arpan and Lee H. Radebaugh, *International Accounting and Multinational Enterprises* (New York: John Wiley, 1985), 13–23.

parliament, often constitutes the final step in the lengthy preparatory work of the responsible parliamentary commissions, during which they typically obtain information from a national body of experts in the field. In the case of accounting matters, this body is the Consiglio Nazionale dei Dottori Commercialisti (CNDC), a national association of commercial experts and consultants who hold university degrees in economics and commercial science and who have passed the state examination necessary to be admitted to the order of "doctors of commerce."

The CNDC acts mainly as an advisory body to its members, to the legislative and executive branches of government, and to Italian business in general. Its influence has increased considerably in recent years, especially in view of the accounting evolution that is the subject of this paper. Over time, two appointed CNDC committees have issued a series of eight accounting principles and seventeen auditing standards, with the declared intent to provide the legislative system and the accounting profession with a description of current, generally accepted principles prepared with careful consideration of national and international accounting theory and practice.[3]

Although slow progress appears to be a constant feature in the evolution of Italian accounting, significant changes have indeed occurred in the last fifteen years in the areas of stock exchange regulation and of the auditing of listed corporations. Moreover, an extensive revision of the civil code law is pending to bring it into conformity with the requirements of the EEC Fourth Directive.

REFORM OF THE STOCK EXCHANGES AND THE DEVELOPMENT OF ACCOUNTING

From 1973 to 1988, the most significant legislation affecting the preparation and audit of financial statements was issued in connection with the reform of the Italian stock exchanges. A national commission for the control of corporations and the exchanges was formed in June 1974.[4] By legislative act 216/1974, the Commissione Nazionale per le Società e la Borsa, CONSOB, was granted a degree of autonomy to manage the exchanges, identify the type of public information required from corporations with listed se-

[3] Giancarlo Tomasin, "Introduzione," *Principi e Raccomandazioni per la Redazione, Revisione, e Certificazione dei Bilanci — Presentazione ed Introduzione* (Milano: Giuffrè Editore, 1977).

[4] Legge 7 giugno 1974 n. 216, *Gazzetta Ufficiale della Repubblica Italiana n. 149* (8 June 1974).

curities, and monitor the fulfillment of these and other requirements mandated by the law.

The same parliamentary act established new requirements for publicly held corporations and modified articles of the civil code to make the new system operative. Section 1 of the act contained legislation concerning such important matters as participation in other corporations, voting quorums at shareholders' meetings, proxy statements, effects of convertible bond issues, formal reports of the board of directors, stock rights issues, treatment of nonvoting shares, and distribution of earnings. Most importantly for accounting, the act detailed the required contents of the income statement. The range of topics covered by this act underscores the legislative effort necessary to integrate new laws into the existing system. The broad range of issues covered indicates the complexity of the system.

Section 2 further emphasizes the complexity of the act; in this section, parliament delegated to the cabinet the power to complete the legislation by regulating the following:

(a) The procedures to be followed in auditing and certifying financial statements;
(b) The required contents of income statements of holding companies, financial companies, and banking institutions listed on the exchanges;
(c) The integration of the act with the existing norms pertaining to the control and operation of the stock exchanges by conferring on CONSOB the necessary power to be a self-regulating and autonomous entity; and
(d) The coordination of all legislation relating to the control of stock exchanges, banking institutions, and state-owned companies.

The cabinet partially fulfilled its responsibility in March 1975 with three decrees covering items (a), (b), and (c).[5] Of these, Decree No. 136, concerning the audit and certification of financial statements, is the most relevant to the present discussion.

Since the mid-1970s, these three decrees have provided the impetus for intense activity by CONSOB designed to improve the public image and the operation of the Italian stock exchanges. A 1983 act of parliament further boosted the equity securities au-

[5] Decreti del Presidente della Repubblica 31 marzo 1975 n. 136, 137, and 138, *Gazzetta Ufficiale della Repubblica n. 119* (7 May 1975).

thorizing the provision of open-ended funds.[6] This new form of investment became immediately popular, especially with small, private savers who were given an alternative to traditional savings tools (i.e., bank deposits, treasury bills, and treasury credit certificates).

The most recent significant parliamentary act concerning CONSOB and the Italian stock exchanges was approved in 1985.[7] Act 281/1985 modified the 1974 legislation, originally creating CONSOB, by increasing it powers and scope as required by item (c) in Section 2 of Act 216/1974. CONSOB became a self-regulating body with the authority to issue rules for its own organization and operation, as well as for the administration and control of the stock exchanges. To achieve its objectives, the act reconfirmed the ample decision powers given to CONSOB. Within the scope of the law, CONSOB was to establish the type of information required from corporations applying for a listing, as well as the medium to disseminate this information. Sarcinelli states: "The aim assigned by the law to CONSOB is to secure transparency. . . . The instrument designed to achieve such transparency is the prospectus, which is to be made public after the approval by the Commission."[8] "Transparency," a transliteration of the Italian word *transparenza,* can best be interpreted here as "full disclosure."

Impact and Limits of the Legislation

The legislative efforts described, although significant, had been too slow relative to the rapid development of the Italian stock exchanges, as CONSOB itself states in the introduction to its 1985 report. Several aspects of the Italian stock market still require regulation. CONSOB noted the need to regulate the realtionship between private investors and brokerage houses or dealers, to institute a controlling authority, to oversee investment fund companies, to adopt an adequate operational structure to increase the efficiency of the system, and to enact legislation setting uniform standards for the preparation of financial statements.[9]

Uniform standards are especially important items because they

[6] Legge 23 marzo 1983 n. 77, *Gazzetta Ufficiale della Repubblica Italiana n. 85* (28 March 1983).

[7] Legge 4 giugno 1985, n. 281, *Supplemento Ordinario della Gazzetta Ufficiale della Repubblica, n. 142* (18 June 1985).

[8] Marion Sarcinelli, "Determinants and Trends of Italian Financial Policy," *Quarterly Review* (Rome: Banca Nazionale del Lavoro, March 1987).

[9] Consiglio Nazionale dei Dottori Commercialisti, "Considerazioni Generali sul Mercato Mobiliare," *Relazione sull' Attività svolta nell'Anno 1985* (Rome: CONSOB, 1986), 7–20.

determine the ability to provide interfirm comparability. As noted in the following sections, despite CNDC's publication of accounting and auditing standards, and notwithstanding the imminent need to conform to EEC requirements, the complexity of the legislation still leaves considerable room for individual interpretation of the law and of the appropriate accounting rules. This situation confirms the general limitations of the legalistic approach to accounting as Arpan and Radebaugh indicated:

> . . . they [the legislators] may be unaware of the accounting implications for practitioners of the accounting legislation they pass — such as the amount of work required to comply with the laws. Perhaps more important, the legislators may ignore the validity and efficacy of the accounting practice in terms of either accounting theory or sound business practice.[10]

Despite these significant limitations, the increased availability of information on listed Italian companies and the growing activity of institutional investors managing increasing amounts of private funds, in addition to a reduction in the rate of inflation and in the expectations for increased earnings of corporations, have combined to produce the spectacular performance of the Italian exchanges in the 1980s. Exhibit 1 summarizes activity on the Milan stock exchange, the most important in the nation, for the period 1982 to 1986. This table indicates that the average growth in market value over this period was 46 percent per year.

The stock market has encouraged many companies to change the traditional composition of their capital structure and to rely

Exhibit 1. Performance of the Milan Stock Exchange*

	1982	1983	1984	1985	1986
Corporations listed listed on exchanges	137.0	140.0	144.0	147.0	183.0
Shares outstanding (billions)	35.22	57.70	94.91	121.02	132.43
Total book value (billion Lire)	13,536.0	17,089.0	21,905.0	20,830.0	31,379.0
Total market value (billion Lire)	27,737.0	34,806.0	48,181.0	98,933.0	186,698.0
Annual increase in % (beginning of year=0)	−1.5	+25.5	+38.4	+105.3	+88.7

Exchange rate (August 1987): US$ = Italian lire 1,375.
* Adapted from Emilio Moar, "Oggi la Borsa Dispone di Una Carta in Più: la Selettivita," *Il Sole — 24 Ore* (18 January 1987), 7.

[10] Arpan and Radebaugh, *International Accounting*, 19.

more on the issuance of stock for their capital. Forty-three corporations were added to the Milan exchanges from June 1986 to June 1987. This can be compared with an increase of only nineteen companies listing their stock on that exchange over the twenty-year period from 1965 to 1985.[11]

AUDITING AND CERTIFICATION OF FINANCIAL STATEMENTS

Prior to 1975, external audits of listed corporations in Italy were virtually unknown. Decree No. 136/1975 mentioned previously mandated that the audit of the accounting system and the certification of financial statements of publicly held corporations be performed by an independent auditing company, which was to issue an opinion stating whether the financial statements were prepared according to "correct accounting principles" (corretti principi contabili). This represented quite an innovation in the Italian accounting system and certainly added some difficulties for the independent auditors who had to determine such "correctness."

In 1975 the CNDC's guidance on accounting principles and auditing standards had not yet been prepared; CONSOB was barely beginning its activity. The existing legislation, mainly based on the civil code, was not sufficiently detailed to regulate all possible accounting events, yet it prescribed frameworks for the accounting activity. For example, it listed the accounts comprising the income statement but did not specify how to record properly accounting transactions, such as long-term contracts or investments in marketable securities. The actual recording of accounting events was, and still is, generally performed according to "good accounting rules" (buone regole contabili).

As Rinaldi indicated in an accounting principles textbook,[12] these "good accounting rules" (such as procedures and evaluation criteria) have evolved from the academic and professional accounting world within the limits of "technical discretion allowed by the legislators. . . ." and are generally accepted by the Italian accounting profession. Rinaldi notes that these "good accounting rules" differ from the "generally accepted accounting principles" of the United States in three ways:

- they are not issued by any legal or professional entity;

[11] Emilio Moar, "In Piazza Affari Più Matricole, Ma Cresce il Peso dei Grandi Gruppi," *Il Sole - 24 Ore* (26 July 1987).
[12] Luigi Rinaldi, *I Principi Contabili — Principi Generali* (Torino: Istituto Editoriale Internazionale, 1985), 21–30.

- they set no procedure to be followed before they can be recognized as "generally accepted" rules; and
- they are not formally sanctioned by any governmental decree.

Instead, these are rules that have simply become "good" (generally accepted) through their general use over time. As a result, the possible difficulty of reconciling "good accounting rules" with the "correct" principles (i.e., the principles conforming to the existing laws) is easily predicted.

Considering the complexity of the accounting system and the potential for possible conflicts in interpretation between "good accounting rules" and "correct principles," the failure of Decree No. 136/1975 to omit any indication of the methods to be used to perform the audit and to phrase the final auditor's opinion is not surprising. The lawmakers created the legal framework necessary to establish a new auditing system and to coordinate the new and existing legislation. They avoided, however, the complexity of establishing auditing principles, implicitly recognizing that this competence rested with CONSOB and the accounting and auditing experts.

In following years, CNDC issued the series of accounting principles and auditing standards previously mentioned. The latter includes the key aspects of auditing (such issues as professional ethics, audit planning, and electronic data processing in accounting systems). All of these were formally recommended by CONSOB in Deliberation No. 1079 in April 1982.

The following year, CONSOB issued Communication No. 83/03583 that detailed the form and content of the audit report in conformity with the laws and with the latest EEC directives. With this document CONSOB integrated legislative requirements, experts' opinions, and the need for adequate publicly available information without limiting the independence of auditing firms. In brief, CONSOB accomplished the following:

- stated that the certification of financial statements should be limited to the balance sheet and the income statement, as described by Decree No. 136/1975;
- asserted that reference to other statements might be confusing, thus eliminating the need for preparing and certifying the supplementary statements recommended by the CNDC (i.e., inflation-adjusted balance sheet and income statement, statement of changes in financial position, and statement of changes in contributed capital);

- required that the Board of Directors include in their formal report to shareholders additional information such as consolidated figures of net assets and net income; amount and changes of net capital; amounts and methods of financing; details on expenditures and capital losses, on exceptional events, and on their effects;
- encouraged the auditing companies to comply with the recommendations and examples of CNDC's auditing standards; and
- suggested that auditing companies use for certification purposes any accounting records, documents, and news concerning the corporation, obviously including the formal report to shareholders mentioned previously.

Impact and Limits of the Legislation

Despite this integrative effort, the accounting principles and the auditing standards issued by CNDC have not required any legal authority. They remain a set of recommendations that incorporate and complete the "good accounting rules" mentioned earlier and are still subject to debate among Italian accounting academicians and professionals.

In this context, CONSOB's recent stress of the continuing need for uniform standards is understandable. The generally accepted "good" accounting rules, together with CNDC's recommended accounting principles and auditing standards, offer accounting tools that are exhaustive, detailed, and current. What appears to be needed, however, is some form of legal action that would sanction those rules, creating principles which are both generally accepted and legally "correct," and would thus foster uniformity in the preparation of financial statements.

This is not a simple task because several complex parameters must be considered: the existing civil code law and all subsequent changes, the ongoing debate among academicians and professionals on the "good" and "correct" way to record certain accounting events, the future need for uniformity within the EEC, and the present need for a more flexible accounting system permitting a rapid response to the constantly changing economic environment.

In the meantime, it is easy to empathize with the bank president of the following anecdote related by a dottore commercialista who practices in a northern Italian city.[13] The president of a local bank

[13] The authors express appreciation to Dr. Gino L. Rossini, dottore commercialista in Modena, for reviewing the contents of this paper in light of his experience.

had commissioned an audit company to certify the bank's financial statements. Among the documents that the audit company required the bank to submit was a letter assuring it the contents of the statements prepared by the bank's accountants presented "a fair and real view of the business and were issued in conformity with legal requirements." Unfamiliar with audit practices and letters of presentation, the president was astonished at this demand for "self-certification," which, in his eyes, circumvented the purpose of the independent audit.

Other aspects of Decree No. 136/1975 are indicative of typical problems of a legalistic approach to accounting in which the accountant must frequently conform to regulations that are neither complete nor entirely clear. Many areas of the Italian legal system are confusing and require laborious interpretation by the entities affected by the law. The following example will provide an appreciation of these difficulties. Decree 136/1975 did not abolish the Board of Auditors (BoA), a corporate control body prescribed by the Civil Code. This created the potential for functional overlap between BoA and independent auditors. In an interpretative comment addressed to its members, however, the Italian association of corporations stated that the duplication of functions between independent auditors and BoA might be only apparent. The latter, in fact, were assigned by law the broad task of "supervising the management of the Company, watching over the compliance with the laws and with the company's charter. . . ." This assignment was, therefore, to include functions of internal auditing that the new legislation did not intend to transfer to the independent auditor.[14]

This interpretation appeared to be in harmony with the close interaction foreseen in Decree No. 136/1975 between independent auditors and the BoA, to which the former must communicate any irregularity that they might discover during the execution of their task. The important point, however, is that this conclusion was arrived through interpretation of the intent of the decree.

THE IMPACT OF THE FOURTH DIRECTIVE OF THE EEC

Accounting and financial analysts believe that uniformity in the preparation of financial statements is essential for meaningful comparisons over time and across firms so that risk-averse users of the financial statements can make the most efficient economic

[14] Associazione per le Società Italiane per Azioni, *Circolare N. 143* (Rome, 5 August 1983).

choices possible. In a country whose accounting system is based on civil code, such as Italy, this uniformity should be achieved through the law.

The complexity of achieving this goal in one country has been demonstrated in the preceding sections; it should therefore be easy to appreciate the difficulties facing the EEC as it attempts to extend such uniformity across thirteen countries (although many of them are blessed with more flexible legal systems than the Italian one). The creation of a unified capital market is the ultimate goal of a set of directives issued in the last decade by the EEC. The Fourth Directive has the most significant implications for financial reporting because it deals with harmonization in the preparation of financial statements.

From the perspective of the individual member country, the difficulty stems from the need to assimilate and integrate new EEC requirements into the existing accounting system. In Italy, the final draft of the legislation that will eventually modify the civil code in fulfillment of the Fourth Directive was ready only at the beginning of 1986,[15] or approximately eight years after the approval of the directive. The draft has not yet been approved by parliament.

As mentioned, according to the Italian legislative system, the parliament can issue mandates empowering the cabinet to write laws (decrees) on matters that require urgent consideration. The 1986 draft to modify Italy's civil code was prepared by the parliamentary commission supervising the integration of the EEC directives into Italian law prior to the parliamentary mandate to the commission. As a result, the commission had to operate on the basis of assumptions as to the scope and objectives of a nonexistent mandate.

In spite of the bureaucratic adversities, the text of the draft represents the synthesis of an intense debate among academicians and professionals in the area of accounting. This debate has covered every possible aspect of the field: from the interpretation of the term "correct" when used in statutes in connection with accounting principles to the accounting method for inflation; from the wording of the different items on the statements to a simplified set of accounting rules for smaller companies; from the contents of the required "integrative note" on the statements to the selection of the most appropriate statement formats.

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[15] Schema di Legge Delegata per l'Attuazione della IV Direttiva CEE," *Il Fisco* (16 June 1986).

Exhibit 2. Balance Sheet Assets

- Stock subscription receivable
- Fixed assets
  - Intangible assets
    - Installation and expansion costs
    - Cost of research and development, advertising, and publicity
    - Patents and other rights to exploit intellectual property
    - Concessions, licenses, trademarks, and similar rights
    - Goodwill
    - Intangible assets in course of acquisition and advance payments
  - Tangible assets
    - Land and buildings
    - Plant and machinery
    - Industrial and commercial tools and equipment
    - Other tangible assets
    - Tangible assets in course of construction and advance payments
  - Financial assets
    - Equity interest
      - In affiliated companies (control exercised)
      - In associated companies (no control)
      - Other
    - Loans
      - To affiliated and associated companies
      - To parent and holding companies
      - Other
    - Other financial assets
    - Treasury stock
- Current assets
  - Inventories
    - Raw materials and supplies
    - Work in process (WIP)
    - WIP to order
    - Finished goods and goods for resale
    - Advance payments
  - Accounts receivable with separate indication for each item of the amounts due and receivable after one year
    - From trade
    - From associated and affiliated companies
    - From parent and holding companies
    - Other
  - Marketable securities
    - Shares in affiliated or associated companies
    - Other types of participation
    - Treasury stock
    - Other investments
  - Cash
    - Deposits in banks and postal banking system
    - Checking accounts
    - Cash on hand
  - Prepaid expenses and accrued income

Exhibit 3. Balance Sheet
Stockholders' Equity and Liabilities

Stockholders' equity
Capital stock
Paid-in capital in excess of par
Revaluation reserve
Legal reserve
Reserve for treasury stock
Reserve according to charter
Other reserves
Retained earnings at beginning of year
Profit or loss for the current year
Liabilities
Accrued liabilities
Pensions and similar obligations
Taxes
Other
Accrued liability for severance pay
Debts with itemized indication of the amounts due and payable after more than one year
Debenture bonds
Convertible bonds
Amounts owed to credit institutions
Amounts owed to other financing institutions
Advance payments from customers
Accounts payable
Notes payable
Amounts owed to affiliated and associated companies
Amounts owed to parent and holding companies
Taxes payable
Social Security contributions payable
Other liabilities
Accrued expenses and deferred income

As to this last item, the formats recommended in the draft are presented in Exhibits 3 and 4.[16] These exhibits differ in some substantial ways with the financial statement format commonly used in the United States and underscore again the complexity of the legalistic approach to accounting. An analysis of these differences, however, would require extensive discussion beyond the scope of this paper.

Italian accounting has made considerable progress since Zappala's article was written. External audits of listed companies are now

[16] Adapted from Livio Cossar, "Osservazioni sullo Schema di Legge Delegata per l'Attuazione della IV Direttiva CEE," *Revista dei Dottori Commercialisti* (January/February 1987), 8–9 and 16–18.

Exhibit 4. Income Statement

- Operating revenues
  - Operating and sales revenues
  - Other operating income
  - Increase (decrease) in finished goods and WIP inventories
  - Increase (decrease) in WIP inventory for goods to order
  - Work performed by the company for its own purposes and capitalized
- Operating costs
  - Raw materials and supplies
  - Service costs
  - Costs for using assets not owned by the company
  - Staff costs
    - Wages and salaries
    - Social Security costs
    - Severance pay
    - Pension costs
    - Other
  - Depreciation and amortization expenses
    - Amortization expenses
    - Depreciation expenses
    - Other write-downs of long-term assets
    - Write-downs of current assets
  - Increase (decrease) in inventories of raw materials and supplies
  - Self-insurance
  - Other operating costs

OPERATING INCOME (Operating revenues minus operating costs)

- Financial income and expenses with separate indication of those derived from associated or affiliated companies and of those from parent or holding companies
  - Investment income
  - Other financial income
    - From capitalized loans
    - From long-term financial assets, other than item investments
    - Other
  - Interest and other financial expenses

TOTAL (Investment income plus other financial income minus interest and other financial expenses)

- Value adjustments of financial assets
  - Increase in value
    - Of participating interest
    - Of nonparticipating investments
    - Of marketable securities
  - Decrease in value
    - Of participating interest
    - Of nonparticipating investments
    - Of marketable securities

TOTAL (Value adjustments of financial assets minus decrease in value)

- Extraordinary gains or losses
- Extraordinary gains with separate indication of gains from sale of assets other than those indicated

Exhibit 4. (cont.)

Extraordinary losses with separate indication of losses from sale of assets other than those indicated in item under "Increase in value of participating interest" and of taxes from preceding years
TOTAL (Extraordinary gains minus extraordinary losses)
Income taxes for the year 19XX
OPERATING RESULT FOR THE YEAR 19XX
Value adjustments due to tax regulations only
Reserve funds according to tax regulations only
NET INCOME (LOSS) FOR THE YEAR 19XX

required by law, and CNDC has issued a set of auditing standards that CONSOB recommends be followed. In addition, CNDC has issued a set of accounting rules to complement the "good" accounting rules accepted by tradition. Full accounting disclosure for firms applying for listing on the stock exchanges is emphasized. This progress arose primarily because of the desire to increase the efficiency of the Italian equity capital market. As the stock market develops, so must the related accounting environment.

Significant problems still remain, however, partially because of Italy's legalistic approach to accounting. Although the law now requires that listed companies apply "correct" accounting principles, such principles have not been adequately defined by law; neither have the traditional "good" accounting rules nor have the standards issued by CNDC been sanctioned by it. Consequently, much diversity is allowed in the application of accounting practices among companies. This diversity will no doubt be reduced soon when the Italian Parliament approves the draft integrating the Fourth Directive into Italian law.

The development of the Italian accounting system still continues. New directives will be issued by the EEC, new requirements will be set by CONSOB, and new recommendations will be expressed by CNDC. The legislative needs and the problems of coordination among existing acts will certainly increase in the future. Given the intricacy of the entire legal system, one can appreciate the complaint of a friend lamenting the need to consult more than one dottore commercialista:

> Things have become so complicated, that even the experts have had to concentrate on specific aspects of accounting. Nowadays, it is very difficult to find a consultant having a broad, practical knowledge of the entire legislation covering the various aspects of accounting.[17]

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[17] Comment by Giorgio Vecchi, Administrative Manager, DP Informatica, Modena, Italy.

In 1968, Mace advised the following:

> . . . I would recommend that any U.S. concern planning to enter business in Italy contact and engage a qualified Dottore Commercialista to represent and advise [it] on all tax and accounting problems. They are as necessary, if not more so, than the certified public accountants in the United States.[18]

Twenty years later, the recommendation is still applicable, but more than one dottore commercialista may now be needed.

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[18] Sherburne F. Mace, "Accounting — Italian Concept," *Management Accounting* (December 1968).

On Monetary Working Capital Maintenance: Theory and Implementation

LeROY BROOKS and DALE BUCKMASTER*

Pendrill's recent article identified several problems in accounting for monetary working capital in the current cost accounting (CCA) model.[1] One question he raises is whether a monetary working capital adjustment should be an element of the CCA model.[2] Then, assuming that monetary working capital adjustments are appropriate, Pendrill notes that few theories describe how monetary working capital adjustments should be measured.[3] He also discusses the difficulty of implementing any but the most simplistic measurement rules.[4]

This paper addresses each of these three items, but it focuses on the theory of computational methodology. We discuss the theoretical role of the monetary working capital adjustment within the specific context that Pendrill considered. The main thrust of this paper is, however, to provide an analytical model of the impact of price change on monetary working capital. Finally, we discuss a study that examines some key variables in the model, as well as the implementation of a working capital adjustment rule.

* LeRoy D. Brooks is Professor of Finance, University of South Carolina.
Dale Buckmaster is Professor of Accounting, University of Delaware.

[1] David Pendrill, "Contrasting Treatment of Monetary Items in Recent Accounting Standards in New Zealand, the United Kingdom, and the United States," *International Journal of Accounting* (Spring 1985), 139–54.

[2] Ibid., 154.

[3] Ibid., 147.

[4] Ibid., 148.

MONETARY WORKING CAPITAL ADJUSTMENT AS AN ELEMENT OF CCA

Pendrill's objective was to compare rules for accounting for monetary items in the United States, the United Kingdom, and New Zealand[5] He notes that the U.K. and N.Z. rules require that inflation-induced changes in monetary working capital be included as an element of income, whereas no such requirement exists in the U.S. CCA model. Pendrill questions the appropriateness of a monetary working capital adjustment because of the difference in the rules and notes that the perceived problem does not appear to be a theoretical quandary if the differences in the rules can be explained.

In the United Kingdom and New Zealand, the primary conceptual support for the adoption of the CCA is a concern for maintenance of the capital necessary to continue existing operations. Income is obtained by matching the cost of replacing the resources that are consumed and that are necessary to continue operations with the resources generated by operations. The income to be measured is represented by excess resources generated by the operations over those required to sustain the level of output of the measurement period with no price changes.[6] Thus, an incomplete measurement of income is obtained if changes in monetary working capital requirements are induced by inflation and if no allowance is made for these induced changes.

Consider the regulatory environment and the stage of theory development in the United States that existed when Statement of Accounting Standards No. 33 (SFAS No. 33), the U.S. rule, was

[5] SFAS 33 is no longer in effect. The FASB has dispensed with the requirement that companies disclose price-change information in financial statements.

[6] The ideas of no further price changes and a continuing current level and type of production have been vigorously attacked. See Prem Prakash and Shyam Sunder, "The Case against Separation of Current Operating Profit and Holding Gain," *Accounting Review* (January 1979), 1–22. While a complete defense of these ideas is irrelevant to the objective of our analysis, some comment appears necessary with regard to the Prakash and Sunder paper. They note that prices of the distributable income model are unrealistic, and they argue that since the assumptions are unrealistic, the relative predictability of the distributable income model is not superior to other commonly proposed accounting income models. Consider, however, that all currently proposed income models report only past events (a price change can be considered a past event). Then all of these models disregard future price changes, level of production, and type of production. In addition, the historical cost income model contains the explicit assumption that prices do not change from the time an asset is acquired until it is disposed. So all of the commonly proposed models contain the same unrealistic assumption. Only forecasts and measurement based on discounted future inflows avoid this unrealistic situation. As for relative predictive ability, this is an unresolved question that can be answered only through empirical testing.

issued. The Financial Accounting Standards Board (FASB) is a political organization; it is sensitive to the preferences of its lobbying constituency (management and public accounting), but the Securities and Exchange Commission (SEC) has statutory power to establish accounting practices. The SEC requested price-change disclosure during the period preceding the issuance of SFAS No. 33 and, if the FASB were to survive, it needed to respond to SEC pressure. For the most part, however, management and public accounting were strongly opposed to price-change accounting requirements. It was inevitable that the resulting requirement for CCA would be as "soft" as possible. The FASB needed a price-change accounting rule, but it easily avoided requiring a refinement such as a monetary working capital adjustment.

Consider also the degree of theory development for monetary items in the United States. Only a handful of U.S. theorists considered the treatment of monetary items, and their work has never been taken seriously by the broader accounting community. Theory related to accounting for monetary assets and liabilities has not advanced beyond Sweeney.[7] Given the regulatory environment and the stage of theory acceptance in the United States, the FASB should not be expected to be overly concerned with the completeness of its price-change reporting requirements. The omission of a monetary working-capital adjustment from SFAS No. 33 is unrelated to the desirability of such an adjustment.

INFLATION INDUCED CHARGES IN MONETARY WORKING CAPITAL REQUIREMENTS[8]

Consider the firm operating in a taxless environment. Its only liabilities are monetary working capital liabilities, L_t that are, initially, a function of the type of firm and the level of the firm's operations. In the accounting equation

$$M_t + A_t = L_t + S_t \tag{1}$$

[7] For a discussion of some of the factors causing the lack of theory development, see Dale Buckmaster, "Inflation Gains and Losses from Holding Monetary Assets and Liabilities, 1918 to 1936: A Study of the Development of Accounting Thought in the United States," *International Journal of Accounting* (Spring 1982), 1–22.

[8] Platt used a similar approach to model the U.K. working capital adjustments; however, the current authors incorporate some assumptions of classical financial theory into their analysis, and the resulting model is quite different from that Platt devised. See W. H. Platt, "Analysis of Aspects of the Treatment of Monetary Gains and Losses in the Hyde Guidelines and ED24," *Journal of Business Finance and Accounting* (Winter 1979), 579–601.

M_t = the monetary working capital assets of the firm at time t,
A_t = the other assets, and
S_t = the book equity.

With zero inflation and no specific price changes, the firm's nominal and real rate of return on equity for period t + 1 is as follows:

$$K_{t+1} = (E_{t+1})/S_t \tag{2}$$

where
E_{t+1} = the period t+1 earnings, exclusive of any nominal dollar holding gains from nonmonetary assets
K_{t+1} = the firm's nominal and real rate of return

Initially, at t, the assumption is adopted that $S_t = V_t$, where V_t is the market value of equity. That is, the book value of the equity equals the market value of the equity. This assumption will aid in evaluting the effects of both book equity, S_t, and market value, V_t, from the adoption of a monetary working capital adjustment in income.

In terms of S_t in (1) the following is stated:

$$S_t = A_t + (M_t - L_t). \tag{3}$$

Given the measurement objectives of the operating capital maintenance income model, the appropriate index for adjustment of working capital monetary items is based on the mix of nonmonetary economic inputs that require the holding of monetary working capital. An economy-wide price index is inappropriate. That is, the relevant price changes in the distributable income model are limited to the actual price changes of the firm's economic inputs during the measurement period[9]

Both nominal and real monetary working capital balances might be affected by price changes of inputs (and outputs). Real monetary working capital balances might be affected in two potentially important ways. First, a real change in the costs of production factors can necessitate an increase in the minimum levels of real monetary working capital required for business continuance. For example, assume a single produce wholesaler where the specific price of units doubles while general prices increase 50 percent. Cash balances required for unit purchase transactions, accounts

[9] For a discussion of special indices for replacement cost income, see, for example, Surrendra Agrawal, "Accounting for the Impact of Inflation on a Business Enterprise," *Accounting Review* (October 1977), 789–812.

receivables, and current payables balances are expected, on average, to double. The real stocks of monetary items increase in the example. This type of change is accounted for if a specific price index of the production input factors (units in the example) is employed to estimate the monetary holding gain or loss. We examine the differences that might arise from using a specific index rather than a general index in the next section.

In addition, a potential change in real working capital requirements results from timing differences and shifts in the timing of receipts and disbursements. For example, real constant dollar receivables might increase at a rate faster than inflation because of a slowdown in customer payment. The prospect of greater monetary gains for debtors exists if they can further postpone payments. Alternatively, suppliers with powerful market positions may seek to improve their monetary position by tightening their collection policies. The combination of suppliers and customers and their relative ability to make changes in the real levels of monetary items determine the time-series relationship between general inflation and a given firm's required real balances of monetary-working capital items. Clearly, the desire of all parties to induce changes is positively correlated to the level of inflation.

Brooks and Buckmaster recently examined the impact of inflation on the real and nominal working capital balances of the firm.[10] The study indicated, in general, that the impact of inflation of monetary working capital is firm specific. The total economy, the industries within which the firm operates, and the specific firm's unique characteristics appear to determine changes in the firm's real monetary working capital requirements.

Differences in production inputs for which monetary balances are held and in timing of receipts and disbursements are the hypothesized major contributions to variations in real monetary working capital; others find it possible to reduce real monetary working capital balances. The results of the authors' study are discussed further in relation to the model in the final section of this article.

Returning to the model and to simplify the analysis further, the specific price-change rate for replacement cost of the nonmonetary items from A_t to A_{t+1} is assumed to be the same rate as the inflation rate for the period, I_{t+1}. The required physical (nonmonetary) stock of A is also assumed not to be affected by inflation.

[10] LeRoy Brooks and Dale Buckmaster, "The Impact of Inflation on Monetary Stocks of the Firm," *Journal of Economic and Social Measurement, 14* (1986), 51–62.

The coefficient multiplier for real monetary working capital assets caused by price changes is α and for monetary liabilities, β.[11] The coefficients are indexes equal to 1 plus (or minus) the real percentage change required in the monetary balance. These coefficients are the variables that reflect the firm's real monetary working capital balance adjustment in response to inflation. As discussed previously, a number of variables may cause the real monetary working capital change, with the two most important variables probably being inflation-induced changes in production input and timing differences in receipts and disbursements *if* the firm is already operating with optimal balances. Assume, for example, a firm that has been exercising good management of its monetary asset balances. Assume further that its customers react to inflation by slowing payment to the extent that every 1 percent increase in the price of the firm's product equals a 1 percent increase in its monetary asset balance. Then, the α for this firm is 1.1 and $\alpha = 1.1$ indicates that, with a 10 percent inflation rate, I, an 11 percent (10 percent $\times$ 1.1) increase in monetary assets, is required. Real monetary assets increase by .909 percent ($[1 + \alpha\ I]/[1 + I] - 1$). β represents the same behavior for liabilities that α does for assets. We might find, for example, that the sample firm is partially able to offset the real increase in monetary assets. It may be able to postpone payment to suppliers so that the β equals, for example, 1.05. Thus, changes in the real levels of M_t and L_t can occur concurrently with inflation.

With the addition of α and β, the incremental funds required to maintain the same productive capacity are as follows:

$$F_{t+1} = I_{t+1}\ (\alpha\ M_t - \beta L_t). \tag{4}$$

In the expected situation for industrial firms $\alpha\ M > \beta\ L$, and with $I_{t+1} > 0$, we have $F_{t+1} > 0$. In other words, when the asset multiplier is greater than the liability multiplier and prices are increasing, F_{t+1} is the proper adjustment for monetary holding losses in a distributable income model.

The monetary gain or loss on working capital items within an operating capital maintenance context can be examined more closely where real returns are held constant on investor's equity. If K is the zero inflation real required rate of return and $S_t = V_t$,

[11] Higher order dependence effects of monetary balances on inflation are not considered in the current paper.

the inflation-required nominal rate of return is $(1 + K)(1 + I_{t+1}) - 1$.[12] Therefore, a going concern's distributable income, coupled with an additional requirement of a constant real rate of return, requires a nominal rate of return K* where

$$\begin{aligned} K^* &= (1+K)(1+I_{t+1}) - 1 \\ &= K+I_{t+1} + KI_{t+1} = (E_{t+1} + \Delta E_{t+1} - F_{t+1})/S_t \end{aligned} \tag{5}$$

for any I_{t+1}; Δ is a multiplier needed to keep real returns unchanged. Recognizing (2) as the zero inflation case and netting the results from (5),

$$\Delta E_{t+1} = I_{t+1}[S_t(1+K) + \alpha M_t - \beta L_t]. \tag{6}$$

That is, the Δ E must be greater than $I_{t+1}\ S_t\ (1 + K)$ if $\beta M_t > \beta L_t$. Alternatively stated, the ability to continue operating at a given level requires the Δ E to be sufficient to cover the nominal dollar inflation effect on investment, S, plus an increment to cover the required absolute dollar monetary working capital expansion if, as in the common situation for an industrial firm, the real increase in the monetary asset requirement is greater than the real increase in monetary liabilities. The following is the multiplier on earnings necessary to maintain the same level of real distributable income.

$$\Delta = I_{t+1}E_{t+1}^{-1}\ [S_t(1+K) + \alpha M_t - \beta I_t] \tag{7}$$

and

$$\partial\Delta/\partial I_{t+1} = E_{t+1}^{-1}\ [S_t(1+K) + \alpha M_t - \beta L_t]. \tag{7'}$$

With $S_t > 0$, $\alpha M_t > \beta L_t$, and $I_{t+1} > 0$, Δ increases at a constant rate to increases in I (i.e., $\Delta'' = 0$).

That the stated conditions of equations (5) through (7) permit existing operations to continue if no further price changes and a real constant K return occur can be easily confirmed. First, given equation (6), the expected book equity dividends, S'_{t+1}, required if the constant real return K is achieved, are the following:

$$\begin{aligned} S'_{t+1} &= S_t + E_{t+1} + \Delta E_{t+1} \\ &= S_t + KS_t + I_{t+1}\ [S_t(1+K) + \alpha M_t - \beta L_t] \\ &= S_t(1+K)(1+I_{t+1}) + I_{t+1}\ (\alpha M - \beta L_t). \end{aligned} \tag{8}$$

Capital maintenance requires a t+1 asset balance that includes

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[12] This assumed that inflation does not affect the real distribution of possible return outcomes or investors' valuation of the anticipated possible outcomes. An additional adjustment of required return for risk changes may be required if this condition does not hold.

nominal dollar holding gains on nonmonetary items, $I_{t+1}\ A_t$, not included in equation (8), plus the incremental investment in monetary items, $I_{t+1}\ (\alpha M - \beta L_t)$, needed to maintain operations. Thus, distributable income from (8), netting out the initial equity position, is as follows:

$$\begin{aligned} Y_{t+1} &= S_t(1+K)\ (1+I_{t+1}) - S_t \\ &= KS_t\ (1+I_{t+1}) \end{aligned} \tag{9}$$

which provides the real rate of return, K, on investment, S_t, adjusted for nominal dollar value changes at the I_{t+1} rate of inflation. If the Δ of equation (7) required to maintain existing operations is achieved, the real rate of return is obtained. Capital maintenance results in

$$S_{t+1} = S_t + I_{t+1}\ (A_t + \alpha M_t - \beta L_t). \tag{10}$$

The ending owners' investment, S_{t+1}, required to maintain the same level of productive output in future periods, is not necessarily equal to $S_t(1+I_{t+1})$, which is confirmed in (10). Total book equity S_{t+1} is needed to retain the same level of real distributable income in t+2. Thus, S_{t+1} is also necessary if a going concern, real constant-dollar return is required. The real rate of return on book equity changes depending on the values of α and β. On the other hand, the real market value of the equity, V_{t+1}, equals the initial value of equity, V_t, if a change in the real capitalization rate has not occurred. The distributable real income in t+1 is the same with or without inflation and is equal to KS_t. This can be confirmed with (2) when no inflation exists and with (9) deflated by $(1+I_t)$ when inflation occurs. The real return, KS_t, capitalized by the constant required real rate of return, K, for the value of a perpetuity equals V_t. The value of equity, V_t, is independent of the inflation rate if the earnings stream multiplier, Δ, is as indicated in (7). Incorporated into (7) is the requirement of maintenance of sufficient monetary stocks to maintain the same level of income.

CAPITAL MAINTENANCE AND HISTORICAL COST/CONSTANT DOLLAR (HC/CD) ADJUSTMENTS COMPARED

Three possible conditions that follow from (10) are identified to compare the proposed gain or loss under capital maintenance with the gain or loss adjustment for monetary working capital that occurs from application of the HC/CD model. Condition (i) is defined as occurring if $S_{t+1} = S_t\ (1 + I_{t+1})$. The condition holds if

$$\alpha\ M_t - \beta L_t = M_t - L_t. \tag{11}$$

This is a specific situation with no changes in the net real stocks of monetary working capital items required for any level of inflation. Condition (ii) occurs if $(\alpha M_t - \beta L_t) < (M_t - L_t)$. If (ii) holds, $S_{t+1} < S_t (1 + I_{t+1})$. Under (ii), real stocks decrease as inflation increases. Condition (iii) occurs if $(\alpha M_t - \beta L_t) > (M_t - L_t)$. If (iii) holds, $S_{t+1} = S_t (1 + I_{t+1})$, and real stocks increase as inflation increases.

In a taxless environment, the adjustment of monetary working capital stocks required to sustain the past period's operations is identical to the HC/CD adjustment when (i) occurs. If $\alpha M_t > \beta L_t$, the distributable income adjustment is less than the HC/CD adjustment for (ii) and more for (iii).

The introduction of income taxes to the analysis accentuates the difference between the capital maintenance adjustment and the traditional HC/CD adjustment. The HC/CD adjustment is not affected by income taxes. Within the construct of maintenance of operating capital, however, any increase in required monetary working capital, F_{t+1}, must be financed from after-tax dollars. Thus, with a marginal tax rate, g, the adjustment for the inflation effect is $\hat{F}_{t+1} = F_{t+1} /(1-g)$ for monetary working capital. An adjustment less than this will result in a failure to measure working capital necessary to sustain existing operations. $\hat{F}_{t+1}$ is the incremental before-tax required investment for a going concern, and $M_t + \hat{F}_{t+1} - L_t$ represents the replacement cost of the required level of monetary working capital at t+1. A difference between a HC/CD and a distributable income adjustment, $\hat{F}_{t+1} - F_{t+1}$, occurs where (i) is holding in a tax environment. For any $g > 0$, the distributable income adjustment results in a larger loss than with the HC/CD procedure in (i). In (ii), the specific tax rate effect, $\hat{F}_{t+1} - F_{t+1}$, must be considered in determining whether the distributable income adjustment is greater or less than the HC/CD adjustment. In (iii), the distributable income adjustment results in a greater loss than with the HC/CD procedure.

SUMMARY AND DISCUSSION OF IMPLEMENTATION

The preceding analysis has demonstrated that if the maintenance of the real value of capital (V) and a constant real return on investment (K) are desirable, the inflation-induced changes in monetary working capital must be considered. Nominal dollar distributable income must include the change in working capital requirements as an element of the income model (1) if the firm has been operating with optimal net monetary working capital balances and (2) if the firm is not capable of shifting the financial burden of maintaining increased nominal-dollar operating requirements to others. If monetary gains and losses on working capital are not considered as a component in determining distributable income, the capital required to generate a continued real net return, K, and to maintain existing operations is misstated. By failing to consider the impact of price changes on working capital requirements, the distributable income measure, E_{t+1}, incorporates a partial real liquidation of the enterprise, equivalent to F_{t+1} from (4) (or $\hat{F}_{t+1}$ in the tax environment). The F_{t+1} indicated by our analysis is the price-change index of the assets supported by monetary working capital multiplied by the net working capital required for the existing level of operations divided by (1 − the marginal tax rate). F_{t+1} differs from the HC/CD measurement of the same monetary working capital items since (1) the price-change index is based on the firm-specific price change rather than general price change and (2) differences in the timing of receipts and disbursements induced by inflation may affect working capital requirements. Further, when income taxes are introduced, the monetary working capital requirements must be financed with after-tax dollars. The possible monetary adjustment can deviate further from an HC/CD adjustment with this additional adjustment.

Two coefficient multipliers (α for working capital monetary assets and β for working capital monetary liabilities) are used to represent the indirect effects of inflation on working capital requirements. Indirect effects will most likely occur because of inflation-induced timing changes of receipts and disbursements.

Brooks and Buckmaster disaggregate the change in monetary working capital balances into (1) change due to volume changes, (2) changes due to price change, and (3) behavioral (other) changes for almost four hundred industrial firms for 1970–1979.[13] The focus of that study is the interaction of the price-change effects and the behavioral effects. The results indicate that in periods of rapid price increase, almost as many firms were able to stabilize their monetary balances or to decrease them as were forced to increase their balances. Of course, for those companies stabilizing or decreasing balances, the behavioral effects offset the quite large price-change effects. Although the study raises more questions than it answers, it does demonstrate the power of the α and the β of the model.

[13] Brooks and Buckmaster, "Impact of Inflation."

If a monetary working capital adjustment is viewed within the operating capital maintenance model, the environment is probably too complex and our knowledge too limited to justify requiring the adjustment in published financial statements at this time. However, an income measure might be improved by an analyst making an estimate of a monetary working capital adjustment. That is, the model can be operationalized for the financial statement analyst with the following methodology:

Step 1: Obtain for the firm an estimated current-period cost of goods manufactured as restated to previous period prices. Let COG_i equal the cost of goods manufactured for the current period, $*COG$ equal the current-period cost of goods manufactured restated to previous period prices, and P_i equal the appropriate average price index for the current period. Then,

$$*COG = P_{i-1}/P_i(COG_i)$$

Internal analysts should use a firm-specific index computed using the prices of inputs into the operating process. External analysis might use a price index that best matches the firm's primary industrial classification.

Step 2: Determine the expected balances for the current period in the absence of price changes and behavioral effects. Let AWC_{i-1} equal the previous period's monetary working capital balances and EWC_i equal the current-period expected monetary working capital balances in the absence of price-changes and behavioral effects. Then,

$$EWC_i = (*COG/COG_{i-1})(AWC_{i-1}).$$

This EWC_i assumes that changes in monetary working capital balances are perfectly correlated with changes in production and that no change has occurred in capital investment. These assumptions collapse in the real world, but it is more realistic to accept them and to attempt to remove the impact of volume changes from the monetary working capital adjustment than to ignore volume changes.

Step 3: Determine the amount of the adjustment.
(a) If $EWC_i \geq AWC_i$, do not make an adjustment. We assume in this case that the firm has been able to avoid adjusting monetary working capital in reaction to inflation.
(b) If $EW_i < AWC_i$, the monetary working capital adjustment (MWCA) is

MWCA = [(AWC_i − EWC_i)/1] − marginal tax rate.

The adjustment incorporates real and nominal changes to provide the desired adjustment in nominal dollars. External analysts can make the adjustment with information obtained from the published financial statements. Internal analysts can utilize any additional information they might have to improve the quality of the adjustment. The process of evaluating the impact of inflation on the monetary working capital balances by internal analysts may also lead to a better understanding of the firm's ability to cope with changing prices and thus to improved managerial decisions.

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Management Preferences for Foreign Currency Standards: An Empirical Analysis

GORDIAN A. NDUBIZU*

This paper has two main objectives. The first objective is to examine the reasons that managements voluntarily adopted Statement of Financial Accounting Standard (SFAS) No. 52 early. This examination is motivated by the lack of evidence from the managers as to why they adopted SFAS No. 52 rapidly. The second objective of the study is to determine whether managers prefer SFAS No. 52 to SFAS No. 8 and the reasons for their preference. The second objective is motivated by the lack of evidence as to whether managers prefer the new foreign currency standard to SFAS No. 8.

Most managers criticized SFAS No. 8 vehemently for increasing the volatility of earnings, which they believed caused adverse security market reactions.[1] Previous studies that addressed this issue of earnings fluctuation and adverse security reactions could not, however, confirm that allegation.[2] Recently, Ziebart and Kim

* Gordian A. Ndubizu is Assistant Professor of Accounting, Drexel University.

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[1] R. E. Dukes, *An Empirical Investigation of the Effects of Statement of Financial Accounting Standards No. 8 on Security Return Behavior*(Stamford, Conn.: FASB, 1978); P. Griffin, "Foreign Exchange Gains and Losses: Impact on Reported Earnings," *ABACUS*, vol. 18 (1982), 50–69; and Y. Ijiri, "Foreign Currency Accounting and Its Transition" in *Managing Foreign Exchange Risk*, ed. Richard J. Herring (Cambridge: Cambridge University Press, 1983), 181–212.

[2] Ibid.

reexamined the impact of SFAS No. 8 on the security markets and found strong negative market reaction to it.[3]The results indicate that managements' criticisms of SFAS No. 8 were not unfounded.

HYPOTHESES

SFAS No. 8 required the inclusion of the foreign currency translation adjustments in reported earnings. Managers complained that their inclusion in income increased the fluctuation of earnings, which caused adverse security market reactions. Studies have shown that earnings volatility is associated with security market volatility.[4] The implication of this relationship is that earnings volatility increases the market measure of risk, which in turn decreases managers' wealth.[5]

Although previous empirical studies by Dukes and Griffin did not confirm the allegations of managers, Financial Accounting Standards Board (FASB) replaced SFAS No. 8 with SFAS No. 52. The FASB action demonstrated for some that the opinions of managers rather than empirical results are the major influence on standard setting.

The provisions of SFAS No. 52 allow managers to exclude translation adjustment from reported income for subsidiaries with a foreign functional currency, although subsidiaries with a dollar functional currency must include translation adjustments in net income. SFAS No. 52 gives managers the power to determine the functional currency of their foreign operations; managers may use this freedom to reduce the volatility of earnings, which is expected to improve stock prices. Given the provision of SFAS No. 52 and the relationship between earnings volatility and stock price, managers are expected to prefer SFAS No. 52 to SFAS No. 8. This study examines whether this is true in terms of (1) the impact of SFAS No. 52 on earnings volatility and (2) its impact on stock prices. The hypotheses are as follows:

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[3] D. Ziebart and D. Kim, "An Examination of the Market Reactions Associted with SFAS No. 8 and SFAS No. 52," *Accounting Review* (April 1987), 343–57.

[4] W. Beaver and J. Manegold, "The Association between Market Determined and Accounting Determined Measure of Systematic Risk: Some Further Evidence," *Journal of Financial and Quantitative Analysis* (June 1975), 231–84; and B. Lev and S. Kunitzsky, "On the Association between Smoothing Measures and the Risk of Common Stock," *Accounting Review* (April 1974), 259–70.

[5] L. Kelly, "The Development of a Positive Theory of Corporate Management's Role in External Financial Reporting," *Journal of Accounting Literature* (Spring 1983), 111–50; and E. Fama, "Agency Problems and the Theory of the Firm," *Journal of Political Economy* (April 1980), 288–307.

H_o: SFAS No. 52 is not perceptually different from SFAS No. 8.
H_a: SFAS No. 52 is preferred to SFAS No. 8.
H_a: SFAS No. 8 is preferred to SFAS No. 52.

SFAS No. 52 was issued in December 1981 and became effective for the fiscal year beginning January 1983. Many multinational corporations (MNC) voluntarily adopted SFAS No. 52 early in 1981 or 1982. As stated, the reasons for early adoption have not previously been directly solicited from the adopting managers. Given that earnings volatility and the associated security price volatility are the problems managers wished to avoid in foreign currency accounting, their expectations that SFAS No. 52 would overcome these problems may have motivated managers to adopt it quickly. Managers may have used the early adoption of SFAS No. 52 to signal their expectations for future earnings volatility and the associated stock price behavior.

Managers may have voluntarily adopted SFAS No. 52 for other reasons. Moses reports that management actions that affect earnings must have a simultaneous impact on both the level and the variability of earnings.[6] Ayres and Gray find that the net effect of the change to SFAS No. 52 is higher income for most early adopters.[7] Higher earnings imply higher accounting returns and higher market returns.[8] Income-smoothing literature and market studies have demonstrated that earnings volatility correlates with security market volatility. High volatility signals higher market risk. Consequently, managers should be motivated to adopt SFAS No. 52 if it increases earnings level and decreases earnings variability. If, on the other hand, SFAS No. 52 increases both earnings level and earnings volatility, managers' action may be motivated by the relative weight associated with the changes in earnings level and the changes in earnings volatility.

As part of this study, managers' reasons for early adoption of SFAS No. 52 were solicited. This approach is different from that of Ayres, who used the accounting choice methodology to identify the distinguishing characteristics of early and late adopters of SFAS

[6] D. Moses, "Income Smoothing and Incentives: Empirical Tests Using Accounting Changes," *Accounting Review* (April 1987), 358–77.
[7] F. Ayres, "A Comment on Corporate Preferences for Foreign Currency Accounting Standards," *Journal of Accounting Research* (Spring 1986), 166–69; and D. Gray, "Corporate Preferences for Foreign Currency Accounting Standards," *Journal of Accounting Research* (Autumn 1984), 760–64.
[8] R. Ball and P. Brown, "An Empirical Evaluation of Accounting Income Numbers," *Journal of Accounting Research* (Autumn 1968), 159–78.

No. 52. Given the difficulty of operationalizing the accounting choice hypotheses (e.g., political cost hypothesis), the method does not always reveal management motivations. For example, size, which is commonly used to measure political cost hypothesis, has been found to correlate with measures of capital structure hypothesis.[9]

SAMPLE SELECTION

The data used in this study were obtained through questionnaires mailed to the financial controllers of the multinational corporations sampled. The instrument was pretested twice. It was first pretested by students and faculty members who are familiar with foreign currency accounting. Based on their comments, the original instrument was revised and was then sent to ten financial controllers. The second pretest resulted in further modification of the instrument. An ex-post validation of the instrument was also performed. The actual earnings variability of the respondent firms was examined and the results were found to be consistent with the opinions reflected in the questionnaire.

The questionnaire was personally addressed to the controllers of the 459 multinational corporations studied by Dukes.[10] In cases where the companies had been acquired, the questionnaire was sent to the new management. One hundred and sixty MNCs responded to the questionnaire, a response rate of 35 percent. This rate is reasonable in comparison to studies by Cooper, Fraser, and Richards; Choi, Lowe, and Worthley; and Daley et al. of financial executives.[11] The frequency distribution of the respondent firms, by industry, is provided in Exhibit 1. The results presented there indicate that the sample is evenly distributed across industries, with a minor concentration in two-digit Standard Industrial Classification (SIC): 28 (chemical and allied products), 35 (engines, machinery, turbines), and 36 (electric and electronic appliances). The majority of the U.S. multinational activities are concentrated in these three industries. Thus, the sample employed in this study would not be expected to limit the external validity of the study.

[9] H. Hunt III, "Potential Determinants of Corporate Inventory Accounting Decisions," *Journal of Accounting Research* (Autumn 1985), 448–66.

[10] Dukes, "Empirical Investigation."

[11] R. Cooper, D. Fraser, and M. Richards, "The Impact of SFAS No. 8," *Financial Executive* (June 1978), 26; F. D. S. Choi, H. Lowe, and R. Worthley, "Accountors, Accountants and SFAS No. 8," *International Journal of Business Studies* (Fall 1978); and L. Daley, J. Jiambalvo, G. Sundem, and Y. Kondo, "Attitudes toward Financial Control Systems in the United States and Japan," *Journal of International Business Studies* (Fall 1985), 91–109.

Exhibit 1. Percentage Frequency Distribution by Industry

SIC	TR	PA	PP	HC	HU	EA	LA
10	.0313	.0392	.0275	0.169	.0396	.0246	.0526
13	.0063	.0000	.0092	.0000	.0099	.0000	.0263
16	.0063	.0000	.0092	.0000	.0099	.0083	.0000
20	.0688	.0588	.0734	.0678	.0693	.0738	.0526
21	.0125	.0392	.0000	.0169	.0099	.0164	.0000
22	.0063	.0000	.0092	.0000	.0099	.0000	.0263
23	.0063	.0000	.0092	.0169	.0000	.0082	.0000
26	.0188	.0392	.0092	.0000	.0297	.0246	.0000
27	.0125	.0000	.0183	.0169	.0099	.0164	.0000
28	.1938	.1765	.2018	.2542	.1584	.2049	.1579
29	.0625	.0980	.0459	.0339	.0792	.0328	.1579
30	.0313	.0000	.0459	.0678	.0099	.0328	.0263
32	.0125	.0196	.0092	.0169	.0099	.0082	.0263
34	.0373	.0588	.0275	.0678	.0198	.0492	.0000
35	.1063	.0392	.1376	.1356	.0891	.0902	.1579
36	.1000	.1176	.0917	.0678	.1188	.1066	.0789
37	.0625	.1176	.0367	.0169	.0891	.0492	.1053
38	.0563	.0186	.0734	.0678	.0495	.0656	.0263
44	.0063	.0000	.0092	.0000	.0099	.0082	.0000
50	.0063	.0000	.0092	.0000	.0099	.0000	.0263
51	.0063	.0000	.0092	.0000	.0099	.0082	.0000
53	.0063	.0000	.0092	.0000	.0099	.0082	.0000
54	.0188	.0000	.0275	.0169	.0198	.0246	.0000
58	.0063	.0196	.0000	.0000	.0099	.0082	.0000
60	.0250	.0784	.0000	.0169	.0297	.0328	.0000
61	.0125	.0196	.0092	.0339	.0000	.0082	.0263
62	.0063	.0196	.0000	.0000	.0099	.0082	.0000
63	.0063	.0196	.0000	.0000	.0099	.0082	.0000
64	.0063	.0000	.0092	.0000	.0099	.0082	.0000
70	.0063	.0196	.0000	.0000	.0099	.0082	.0000
73	.0438	.0000	.0642	.0508	.0396	.0492	.0263
75	.0063	.0000	.0092	.0000	.0099	.0082	.0000
89	.0063	.0000	.0092	.0169	.0000	.0000	.0263

SIC = Standard Industrial Classification two-digit code
TR = Total respondents
PA = Politically active
PP = Politically passive
HC = Hedging changed
HU = Hedging unchanged
EA = Early adopters of SFAS No. 52
LA = Late adopters of SFAS No. 52

Sample Groups

The respondent firms were classified into politically active/politically passive groups, hedging changed/hedging unchanged groups, and early adopter/late adopter groups. This classification may provide more insight as to which foreign currency standards the managers preferred and the reasons for their preference.

The politically active companies are those that criticized SFAS No. 8, as documented in FASB's postenactment review files.[12] These companies were active participants in the foreign currency standard-setting process and in the deliberations that led to the issuance of SFAS No. 52. The list of these companies was obtained from the FASB, and it was matched with the list of firms that responded to the questionnaire. The politically active group constitutes 36 percent of the respondent companies. The politically passive group is composed of companies that did not respond to the 1978 FASB postenactment review of the first twelve standards or to FASB's call for comments on the discussion memorandum and exposure drafts on SFAS No. 52.

Dividing the respondents into politically active and politically passive groups may provide insight into the degree to which the politically active groups influence the FASB. The current standard-setting structure presumes that the politically active groups generally reflect or represent FASB's political constituencies. The FASB's ability to survive as a standard-setting body is inherently associated with its ability to address the concerns of both the politically active and passive groups. This situation is more likely to exist in an environment in which the current politically passive group may become the politically active group in the future.

The sample was also classified into hedging-changed firms and hedging-unchanged firms. The hedging-changed groups are companies that changed their foreign exchange hedging strategy following the issuance of SFAS No. 52; the hedging-unchanged firms continued to apply their SFAS No. 8 hedging strategy during the SFAS No. 52 era. Evidence from the questionnaire suggested that most hedging-changed companies reduced their hedging activities. Presumably, the hedging-unchanged firms have foreign operations in a dollar functional currency, a situation that implies that they will continue to apply the requirements of SFAS No. 8. Items B and C in the questionnaire identified hedging-changed/unchanged companies. Of the respondents, 62 percent are hedging-unchanged companies. Because the impact of SFAS No. 8 on hedging activities was a major concern to management, classifying the sample into hedging changed/unchanged may provide insight into whether

[12] Financial Accounting Standards Board, Index to Submissions, Reference File No. 1055 (1978), 1–30.

management preferences were influenced by the perceived effect of SFAS No. 52 on corporate hedging activities.

The sample was further classified into early adopters and late adopters. The early group adopted SFAS No. 52 in 1981 or 1982, but the late group adopted the standard only in 1983, its effective date. The classification of the respondents into early/late groups was based on questionnaire items A1 and D7.[13] An examination of the financial reports and/or form 10K for the adoption year indicated that the opinions of the executives were consistent with their financial reports. Of the respondents, 25 percent are late adopters. Classifying the sample into early and late groups may provide some insight into why managers adopted SFAS No. 52 early.

The primary data requested of financial executives in the questionnaire are the rankings of SFAS No. 52 vis-à-vis SFAS No. 8, the reasons for early adoption of SFAS No. 52, and the impacts of SFAS No. 52 on hedging strategy. The ranking of SFAS No. 52 over SFAS No. 8 was based on two major criticisms of SFAS No. 8: the impact (1) of the standards on earnings volatility and (2) of the standards on stock prices. Items B and D in the questionnaire identified managers' ranking as to foreign currency standards. Items A and D7 indicated the early adopters' reasons for voluntary early adoption of SFAS No. 52, and items B and C identified the impact of SFAS No. 52 on a firm's strategy to hedge foreign exchange.

RESULTS

Univariate Analysis

Exhibit 2 presents the results of the ranking of SFAS No. 52 versus SFAS No. 8 based on impact on earnings volatility and effect on stock prices. For the multinational group, the null hypothesis of an identical standard is rejected at the 0.05 level. A Wilcoxon sign test was applied to provide a univariate test of the hypotheses. The results indicate that the multinational corporations preferred SFAS No. 52 to SFAS No. 8 in terms of its impact on earnings volatility; this implies that SFAS No. 52 is an improvement over SFAS No. 8 in this respect. Managers do not, however, perceive SFAS No. 52 as an improvement over SFAS No. 8 in terms of its impact on stock prices. Contrary to empirical findings, the perceived improvement in earnings volatility does not translate into a "perceived improvement" in stock prices.

[13] A copy of the questionnaire may be obtained from the editor of this journal.

Exhibit 2. Univariate Tests of the Ranking by Respondents of SFAS No. 52 versus SFAS No. 8

Sample	Basis for ranking	Preferred standard	Wilcoxon sign test Z-Value	Two-tailed probability
Multinational corporation	IVRE	SFAS No. 52	7.1852	0000*
Multinational corporation	ISP	SFAS No. 8	−2.7720	.0058*
Politically active group	IVRE	SFAS No. 52	3.8335	.0000*
	ISP	Identical	−1.7614	.0784
Politically passive group	IVRE	SFAS No. 52	6.0796	.0000*
	ISP	SFAS No. 8	−2.1567	.0308*
Hedging-changed group	IVRE	SFAS No. 52	3.5763	.0000*
	ISP	Identical	−1.8571	.0628
Hedging-unchanged group	IVRE	SFAS No. 52	6.1180	.0000*
	ISP	SFAS No. 8	−2.0640	.0394*
Early adopters	IVRE	SFAS No. 52	7.9263	.0000*
	ISP	Identical	1.6681	.0950
Late adopters	IVRE	Identical	0.5071	.6100
	ISP	SFAS No. 8	−2.6110	.0090*

IVRE = Impacts on volatility of reported earnings.
ISP = Impacts on stock prices.
* The null hypothesis of identical standard (SFAS No. 52 versus SFAS No. 8) is rejected at the .05 level.

Exhibit 2 also presents the results of the ranking of SFAS No. 52 visà-vis SFAS No. 8 for both politically active and passive groups. The results indicate that both the politically active and passive groups preferred the earnings volatility impact of SFAS No. 52 to that of SFAS No. 8. The politically passive firms preferred SFAS No. 8 in terms of its impact on stock prices, but the politically active group could not distinguish between the two standards. These results indicate that by issuing SFAS No. 52, FASB has won the full support of the politically active group but has yet to win the full support of the politically passive group. The potential threat to SFAS No. 52 is more likely to come from the politically passive group, whose concerns were not forcefully addressed by the FASB. These results imply that the current standard-setting process is indeed a political gambit; this has tremendous implications for the FASB, as it indicates that the politically active firms do not represent the FASB's constituency.

The results for hedging-changed and hedging-unchanged firms are also reported in Exhibit 2. The groups differed in ranking the standards based on their effect on stock prices. The hedging-unchanged firms preferred SFAS No. 8, whereas the hedging-changed group could not discriminate between the standards in terms of their effect on stock prices. The hedging-changing firms preferred SFAS No. 52 more than the hedging-unchanged group did. This is not surprising, given that the hedging-changed group reduces its hedging following the issuance of SFAS No. 52. The hedging-unchanged group continued its SFAS No. 8 hedging expenses.

See Exhibit 2 for the results of the ranking of SFAS No. 52 in relation to SFAS No. 8 by the early and late adopters. Early adopters preferred SFAS No. 52 to SFAS No. 8, based on the former's effect on earnings fluctuation, but the late adopters found the standards to be identical. In terms of the impact of the standards on stock prices, the late adopters preferred SFAS No. 8 over SFAS No. 52. The early adopters could not distinguish between the two standards. Two possible reasons explain this observed inconsistency across groups. The first is that the requirement in SFAS No. 52 that translation adjustment be excluded from reported earnings may reduce earnings fluctuation. SFAS No. 52 requires, however, that plant and equipment and inventory be translated at the current rate. The impact of this requirement on depreciation expenses and costs of goods sold may outweigh the excluded translation adjustment. Thus, the net effect of SFAS No. 52 on reported earnings may vary across companies. Consequently, the early adopters may consist of companies with reduced earnings fluctuation following SFAS No. 52, with the late adopters having increased earnings volatility.

The second interpretation of the result is that the early adopters may consist of companies with a foreign functional currency. This allows the companies to exclude translation adjustment from net income. The late adopters, on the other hand, may consist of companies with dollar functional currency. Foreign operations with a dollar functional currency are required to continue to apply the provision of SFAS No. 8. These facts indicate why some companies adopted SFAS No. 52 early but the other group of companies chose to adopt late. The implication of the results is that the late adopters deliberately adopted SFAS No. 52 late to protest the issuance of the standard, but that other managers used early adoption to signal their support.

The univariate analysis of the ranking of SFAS No. 52 versus

SFAS No. 8 may be sensitive to the classification of firms employed in this study. To examine whether the results are sensitive to a sample classification, the multivariate chi-square test was applied.

Multivariate Analysis

The results of the multivariate chi-square test are reported in Exhibits 3, 4, 5, and 6.According to these results (see Exhibit 3), the proportion of companies that preferred SFAS No. 52, based on the volatility of reported earnings, varies from group to group. With the exception of the politically passive, hedging-changed late adopters (PCL) group, SFAS No. 52 was preferred to SFAS No. 8, and only 40 percent of the net group preferred SFAS No. 52. The groups with late adopters (denoted by L) have a relatively lower preference proportion than the groups with early adopters (denoted by E). This result is consistent with the univariate test, which indicates a distinctly different preference ranking between the late adopters and the early adopters.

Exhibit 3. Multivariate Tests of the Ranking of SFAS No. 52 versus SFAS No. 8 Based on Effect on Volatility of Reported Earnings

	Multivariate Analysis								
	Number of firms that prefer each method								
Method of translation	ACE group	ACL group	AUE group	AUL group	PCE group	PCL group	PUE group	PUL group	TOTAL
SFAS No. 8		2	5	3	6	6	4	5	31
SFAS No. 52 (a_i)	9	3	18	6	27	4	45	7	119 A
Total (n_i)	9	5	23	9	33	10	49	12	150
$P_i = a_i/n_i$	1.000	0.6000	0.7826	0.6667	0.8182	0.4000	0.9184	0.5833	0.7933($\overline{P}$)
Chi-square = 21.8707*			[DF=7]						0.2067($\overline{q}$)

Note: ACE = Politically active, hedging-changed, and early adopter group
ACL = Politically active, hedging-changed, and late adopter group
AUE = Politically active, hedging-unchanged, and early adopter group
AUL = Politically active, hedging-unchanged, and late adopter group
PCE = Politically passive, hedging-changed, and early adopter group
PCL = Politically passive, hedging-changed, and late adopter group
PUE = Politically passive, hedging-unchanged, and early adopter group
PUL = Politically passive, hedging-unchanged, and late adopter group
The operational definitions of these respondent groups are provided in the sample section.

* Significant at the 0.05 level.
DF = Degree of freedom
P_i = Sample proportion that prefers SFAS No. 52
a_i = Number that prefers SFAS No. 52 in each sample
n_i = Total number of respondents in each sample
$\overline{P}$ = Overall proportion that prefers SFAS No. 52
$\overline{q}$ = Overall proportion that prefers SFAS No. 8
A = Overall number of firms that prefer SFAS No. 52
χ^2 = $[\Sigma P_i a_i - \overline{P}A]/[\overline{p}\overline{q}]$

Exhibit 4. Early and Late Adopters' Ranking of SFAS No. 52 versus SFAS No. 8 Based on Volatility of Reported Earnings

Method of transportation	Number that prefer each method: Early adopters	Late adopters	TOTAL
SFAS No. 8	15	16	31
SFAS No. 52 (a_i)	99	20	119 A
Total (n_i)	114	36	150
$P_i=a_i/n_i$	0.8684	0.556	0.7933 ($\bar{P}$)
Chi-square	16.3470*	(DF=1)	0.2067 ($\bar{q}$)

Note: The variables are defined in Exhibit 3.
* Significant at 5% level
DF = Degree of freedom

Exhibit 5. Multivariate Tests of the Ranking of SFAS No. 52 versus SFAS No. 8 Based on Volatility of Reported Earnings

Method of transportation	Early adapter groups — Number that prefer each method: ACE group	AUE group	PCE group	PUE group	TOTAL
SFAS No. 8		5	6	4	15
SFAS No. 52 (a_i)	9	18	27	45	99 A
Total (n_i)	9	23	33	49	114
$P_i=a_i/n_i$	1.000	0.7826	0.8182	0.9184	0.8684 ($\bar{P}$)
Chi-square	3.9178	(DF=3)			0.1316 ($\bar{q}$)

Method of transportation	Late adapter groups — Number that prefer each method: ACL group	AUL group	PCL group	PUL group	TOTAL
SFAS No. 8	2	3	6	5	16
SFAS No. 52 (a_i)	3	6	4	7	20 A
Total (n_i)	5	9	10	12	36
$P_i=a_i/n_i$	0.3000	0.6667	0.40000	0.5833	0.5556 ($\bar{P}$)
Chi-square	1.5038	(DF=3)			0.4444 ($\bar{q}$)

Note: The variables are defined in Exhibit 3 and in the sample section.
* Significant at the 0.05 level
A = Overall number of firms that prefer SFAS No. 52
DF = Degree of freedom

The chi-square with seven degrees of freedom calculated in Exhibit 3 was classified into three components (see Exhibits 4 and 5).[14] The results of the test (see Exhibit 4) indicate that most of

[14] G. Snedecor and W. Cochran, *Statistical Methods* (Ames: Iowa State University Press, 1980), 200–14.

Exhibit 6. Multivariate Tests of the Ranking of SFAS No. 52 versus SFAS No. 8 Based on the Effect on Stock Prices

	Number of firms that prefer each method								
Method of transportation	ACE group	ACL group	AUE group	AUL group	PCE group	PCL group	PUE group	PUL group	TOTAL
SFAS No. 8	4	4	12	5	16	8	22	8	79
SFAS No. 52 (a_i)	4	1	5	4	11	2	17	1	46 A
Total (n_i)	8	5	17	9	27	10	39	10	125
$P_i=a_i/n_i$	0.5000	0.2000	0.2941	0.444	0.4074	0.2000	0.4359	0.2000	0.3680 ($\bar{P}$)
Chi-square	5.2098		[DF=7]						0.6320 ($\bar{q}$)

Note: The variables are defined in Exhibit 3.
DF = Degree of freedom

the variations in the group's preference proportion is due to the differences between early and late adopters. The proportion of early adopters that prefer SFAS No. 52 differs statistically from the proportion of late adopters at the 0.05 level. To validate this result, the preference proportions of the early and late adopters are separately examined (Exhibit 5). The results indicate that preference proportions of the four early adopter groups (ACE, AUE, PCE, and PUE) are not statistically different at the 0.05 level. Similar results are observed for the four late adopter groups (ACL, AUL, PCL, and PUL). The early adopter groups do not differ regarding the preference proportion, nor do the late adopter groups differ among themselves. The percentage of early adopters that preferred SFAS No. 52 over SFAS No. 8 does, however, differ significantly from late adopters at the 0.05 level. The implication of the results is that the differences in preference proportion observed among the various groups are associated with the differences between early and late adopters.

The results of the multivariate tests of the ranking of SFAS No. 52 over SFAS No. 8 are based on the effect on stock prices (see Exhibit 6). The results indicate that with the exception of the ACE groups, the groups preferred SFAS No. 8 to SFAS No. 52. The preference percentages of the eight groups are not statistically different at the 0.05 level. Thus, further classification of the chi-square was not justified.

Reasons for Voluntary Early Adoption

See Exhibit 7 for the reasons for voluntary early adoption of SFAS No. 52. The percentages of the respondents who considered each reason important and not important are also included in the exhibit. The results of the tests indicate that voluntary early adoption of

Exhibit 7. Reasons for Voluntary Adoption of SFAS No. 52

Reasons for adopting early SFAS No. 52 was adopted early	Degree of importance (in percentages) Not important	Important
because translation gains/losses under SFAS No. 52 were expected to reflect better the economic effect of exchange rate changes.	24	76*
because your compjany expects its future earnings under SFAS No. 52 to be higher than earnings under SFAS No. 8.	65†	35
because the adoption of SFAS No. 52 had a more favorable effect on earnings than SFAS No. 8 in the year of adoption.	48	52*
because the volatility of reported earnings was expected to be reduced under SFAS No. 52.	25	75*
because SFAS No. 52 was expected to improve stock prices.	86†	14
because SFAS No. 52 was expected to improve financial ratios.	85†	15
because SFAS No. 52 overcame the weakness of SFAS No. 8.	31	69*
because SFAS No. 52 was (or was expected to be) adopted by competitors.	83†	17
because early adoption of SFAS No. 52 would send a message (signal) to the users of financial statements.	78†	22

* Percentage above 50% for important.
† Percentage above 50% for not important — includes less important

SFAS No. 52 was motivated by the expected impact on the standard on earnings volatility and on future earnings, as well as by the general belief that SFAS No. 52 overcomes the weaknesses of SFAS No. 8. Other reasons for voluntary early adoption of SFAS No. 52 are provided (see Exhibit 8); the results indicate that 20 percent of the early group adopted because the impact of SFAS No. 52 would be immaterial. These results may guide future research into managers' motivation for voluntary early adoption.

Exhibit 8. Other Reasons for Voluntary Adoption of SFAS No. 52

Reasons for early adoption	Number of respondents	Percentage of respondents
Impact of SFAS No. 52 is presently immaterial to our financial statements.	20	12
Our policy is to adopt new standards early.	5	3
SFAS No. 52 offers the ability to handle the accounting complexity of the change.	3	2
SFAS No. 52 offers the option to retain flexibility by chosing between two alternatives.	1	0.6

Note: Other reasons are identified in item A2 of the questionnaire. Responses that correspond with possible reasons for early adoption outlined in item A3 [$3_a \ldots 3_l$] in the questionnaire were eliminated from this table.
A copy of the questionnaire may be obtained from the editor of this journal.

SUMMARY

This study investigated managers' preference for foreign currency standards and the reasons for voluntary early adoption of SFAS No. 52. The overall results indicate that managers preferred SFAS No. 52 to SFAS No. 8 in terms of its effect on earnings volatility. SFAS No. 52 is not preferred, however, with respect to its effect on stock prices. The implication of this is that the foreign currency translation controversy will continue. The respondents expressed concerns as to SFAS No. 52 with respect to (1) deferral of foreign currency gain/loss, (2) translation of major nonmonetary assets at current rate, (3) translation in a highly inflationary environment, (4) determination of functional currency status, and (5) complexity of intercorporate transactions.

The opinions of the politically active group differ from the politically passive group. This has implications for FASB. First, the presumption that the politically active groups represent FASB's political constituency is not consistent with these results. Second, the results suggest that the standard-setting process is a political gambit.

The opinions of the early adopters differ distinctly from those of the late adopters. The later group preferred SFAS No. 8 to SFAS No. 52. The differences in preference pattern indicate that companies adopted SFAS No. 52 early because of its favorable impacts on earnings level and earnings volatility, as well as the belief that the standard is an improvement over SFAS No. 8.

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Attitude Measurement and Instrumentation in International Accounting Research

JAMES A. SCHWEIKART*

Very often research questions involving international accounting cause the researcher to attempt to measure attitude. This is particularly true of studies comparing accounting systems across countries. Problems such as how users of accounting information in different countries perceive the value of that information, how managers around the world assess their business operating environments, and how managers in different countries assess the fairness of their national tax systems cause the researcher to develop survey instruments that attempt to measure national attitudes.

The area of attitude measurement is difficult and suspect in the opinion of many. Arguments concerning the appropriate way to construct survey instruments have existed since the research task was first attempted. This work was pioneered in the fields of social psychology and sociology, which refined the development of instruments to measure the level of an attitude possessed by a particular group being studied. The problem of comparative measurement of two groups in two different countries, which complicates the process, has been largely ignored.

THE GOAL OF INSTRUMENTATION

All attitude survey instruments attempt to measure the level of attitude possessed by an individual and his or her group. This requires the creation of an instrument that is brief (thirty or forty items) to prevent the respondent from losing patience and attention. This further necessitates that the instrument items be efficient,

* James A. Schweikart is Assistant Professor, the University of Richmond.

with each one contributing to the measure of the attitude level of the group. This brevity is often abused for the purpose of completeness. The trade-off with lengthy surveys, however, is generally a low response rate, with some items being left unanswered or being poorly considered by the respondent. These instrument limitations impair the critical measure of attitude. Thus, selection of a smaller set of items that can be demonstrated to be good measurement of the construct under investigation is necessary to achieve the best results from the use of the survey instrument.

CONSTRUCTING A SURVEY INSTRUMENT WITH THE LIKERT PROCESS

The problem of selecting efficient survey items has generated several processes to develop a survey instrument. These processes, however, can be grouped into two broad categories. One category is the Likert process and its refinement, the Guttman process; the other category is the Thurstone process. In accounting research, the Likert process is the most commonly used.[1] This process may, however, have certain problems when used in an international study. It requires the researcher to develop a pool of item statements that will measure the level of attitude (the defined construct) within a group through introspection, observation, and suggestions from others. For example, a construct (attitude) under investigation might be the usefulness of accounting information. One such item might be the following: "the balance sheet is helpful in determining the solvency of the enterprise." The group being studied would be asked to respond to each item, including the preceding one, using a scale of one (1 — strongly disagree) to five (5 — strongly agree). Each respondent would be assigned an average score based on all of the items and then each respondent's average score would be ranked with the other respondents. Respondents who have high average scores are said to possess high levels of the attitude studied. In this case, the high average score would indicate that they believe that the accounting information has high usefulness. Those with low scores are said to possess low levels of the attitude or to believe that the accounting information is of little use. The high and low quartiles of respondents are then compared as to how they responded to each item. Items to which responses are similar for both groups are considered poor discriminators and are therefore

[1] Hugh D. Groves and Richard S. Savich, "Attitude Research in Accounting: A Model for Reliability and Validity Considerations," *Accounting Review* (July 1979), 522–77.

eliminated. The remaining items are then used to rescore the group to measure the level of its attitude to the question.[2]

It is important to note that this process is an objective process in which items are selected to use to measure the level of attitude of the particular population studied. The use of the refined instrument with another population may be a questionable practice. Likert addressed this by noting that the instrument cannot be used effectively in another culture, because the attitudes reflected by members of a different culture were used to create the instrument.[3] It is here that this process encounters difficulty in international research efforts.

The Likert process selects a sample from a given population and identifies the mean attitude level of the sample and of the first and fourth quartiles of the sample. Based on the group mean attitude score and the distribution of the respondents' attitude scores (the location of the first and fourth quartiles) in the sample, ambiguous items are eliminated. If two subsets of any population, Group A and Group B, are to be compared by t testing the difference in mean attitude scores, the instrument can be used quite effectively. Essentially, the hypothesis being tested is that subsets A and B occupy the tails in the distribution of the sample mean attitude scores.

Suppose, however, that only Group A is available for the pretest or the elimination of items and, therefore, only Group A is used. If the means and/or distributions of both groups are different, the items eliminated by A are not guaranteed to be the same as they would be if B were included in the pretest. This is due to the fact that one extreme value of A will be a neutral attitude, not a high or low attitude of the combined group. One extreme quartile for the combined group is missing. This possibility with hypothetical Group A and Group B distributions is presented in Exhibit 1, in which the maximum discriminating ability of the items is not achieved. Hence, the Likert process can be reassuring only if the mean and distribution of Group A are the same as those of Group B, or if both groups are included in the pretest.

This example is precisely the problem faced by the international accounting researcher. If a U.S. researcher is studying the comparative usefulness of information in Japan and the United States,

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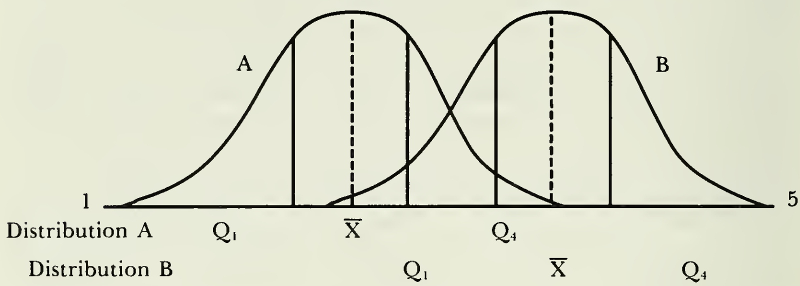
[2] For a discussion of the theory and technique of Likert scaling, see Renis Likert, "The Method of Constructing an Attitude Scale," *Readings in Attitude Theory and Measurement*, ed. Martin Fishbein (New York: Wiley, 1972), 90–95.

[3] Ibid.

Exhibit 1. Possible Distributions of Two Subsets of a Population



members of both subsets would have to be included in the pretest for the Likert process to be effective. For reasons of cost, time, unnecessary translation of items never to be used into Japanese, and a low response rate, the systematic development of an instrument within the United States is more efficient. Unfortunately, this expeditious method can eventually lead to unexplainable or ambiguous results if the Likert process is followed.

USING AN ALTERNATIVE SURVEY INSTRUMENT: THURSTONE SCALING

Because it is not practical to administer the instrument to Japanese respondents in the pretest group, and because it is probably desirable to create an instrument that can be used in even a third or fourth country at a later date, the development of an absolute attitude scale for use in several countries is necessary. Thurstone attempted this process.

The Thurstone process also uses introspection, observation, and suggestions to generate potential instrument items that measure a construct. Unlike the Likert process, however, the Thurstone process does not employ the distribution and ranking of an attitude of a test group to select items. Rather, a group of judges sorts the items into several categories according to low, medium, or high amounts of the attitude. Each judge simply classifies a statement as one that represents a particular level of an attitude if a respondent selected it.

For example, the following statement might be an item: "the balance sheet really helps determine the solvency of a corporation." The judges would assign a number from one (1 — low attitude) to six (6 — high attitude). Thus, if the statement is, on average, classified as a five (5), a respondent who selects the statement as representative of his or her attitude would have a reasonably high regard for accounting information. Each item distribution made by the judges is examined, a scale value (item median) instrument developed from the distribution, and the position on the scale of the first and third quartiles of the sorting is determined. Those items with small ranges between the first and third quartiles (ambiguity indices) are kept. Others are discarded as ambiguous items.

The prescaled items that are kept should include all parts, low to high, on the scale. Respondents in the test group should be asked to select only the statements that describe their attitude and to ignore the remaining statements. Individual and group attitude scores are calculated from the selected items[4] An illustration of the Thurstone process is provided in the Appendix.

The main difference between the Thurstone and the Likert scales is that the Thurstone, an absolute scale, consisting of items with assigned attitude levels, is developed without using the attitude level of a particular group to select the items. Thurstone, in his original discussion of this procedure, maintained that it is probable that groups with different levels of an attitude will discriminate in the same manner of that attitude the items are supposed to measure. Thurstone was concerned that if this assertion were not true, some bias would be introduced into the selection of items. His concern prompted studies to test this idea. The results tended to support his position but were limited in scope because they did not use international or accounting constructs.[5] Thus, although researchers cannot be sure until testing on international accounting constructs has been performed, the Thurstone approach appears to be reliable.

If the Thurstone process is indeed the more appropriate of the two processes, it has two additional advantages. First, all of the judges classify both the items and the extreme quartiles. Accordingly, it is easier to have a large group in the classification, thereby improving item selection. Second, the final instrument asks that respondents select and mark only those statements that describe their attitudes. All others are ignored. The subjects' scores are based only on selected items in contrast to the Likert technique, in which respondents are asked to answer all items. If ambiguous

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[4] For a discussion of the theory and technique of Thurstone scaling, see L. L. Thurstone, "Attitudes Can Be Measured," *Readings in Attitude Theory and Measurement.*

[5] A. A. Edwards and K. C. Kenney, "A Comparison of the Thurstone and Likert Techniques of Attitude Scale Construction," *Readings in Attitude Theory and Measurement.*

items remain after the pretest, these items elicit a three (3) as a score. Several of these central tendency items can impair the measure.

Accordingly, for international studies, the Thurstone process may produce an instrument that is more reliable, less expensive, and less time consuming than the Likert process does. This does not mean that the Likert process is inappropriate but that if the construct under consideration is simple and consists mainly of "things or objects," the Thurstone form of scaling can be beneficial.

An example is "Rate the following financial statements on how helpful they are to you in your job."

Construct: Financial Statement Helpfulness

Items	No help				Very helpful
Income statement	1	2	3	4	5
Balance sheet	1	2	3	4	5
Cash flow	1	2	3	4	5
Funds flow	1	2	3	4	5

The items possess little ambiguity, because they relate primarily to existing financial statements (objects), not attitudes themselves.

CULTURAL BIAS AND THE TRANSLATION OF INSTRUMENTS

The Likert or Thurstone scaling is chosen to select unambiguous items to include in an instrument so that an attitude can be efficiently measured. One form of ambiguity that cannot be detected by either the Likert or Thurstone method in international research is the cultural connotation of terms in items. For example, the use of the following item on a Likert scale administered in two countries may produce polar responses, or it may be selected by respondents of only one country on a Thurstone scale although respondents in both countries possess the same attitude level. "The income statement is a powerful tool."

The words "powerful" and "tool" may produce positive responses in one country and negative ones in the other country being studied. This variation in response results from these words possibly having a disparaging connotation in one of the countries. Closely related to this problem is that words do not always translate into equivalents in another language. Choi and Mueller noted this problem in their discussion of the Japanese language and financial

Exhibit A1. Pretest Instrument Worker Attitude Environment Construct

Here are statements about worker attitudes in communities. Assume the statements are true. Rate the statement as very poor worker attitudes (1) to very good worker attitudes (6). It might be helpful to consider yourself to be an employer.

	Very Poor					Very Good
1. In general, people in this area try to enjoy their work.	1	2	3	4	5	6

2. Work is a source of pride here.
3. People in this area do not like to do their fair share of work.
4. People work only if others around them work.
5. Employees like to make suggestions for work improvement.
6. Very seldom do employees have any good suggestions.
7. Employees tend to arrive for work a little late.
8. People here like to work within a group.
9. People in this area tend *not* to work well together.
10. Most people feel that a job is only for making a living.
11. Responsibility is readily accepted by local employees.
12. Most individuals understand and appreciate the position of the person to whom they report.
13. In general, workers in this area are *not* motivated in their jobs.
14. Rewards tend to motivate people somewhat.
15. Most people in this area care about their jobs only on payday.
16. Recognition for good work is somewhat appreciated by local employees.
17. Generally, people regard their work as being somewhat important.
18. People are willing to get along and be agreeable with their boss.
19. Work is accepted primarily as a necessity to live.
20. People here are lazy.
21. People here are occasionally dependable.
22. Local employees work hard.
23. With a moderate degree of difficulty, enough people can be obtained to work overtime when needed.
24. Local personnel are willing to do more than their job requires of them.
25. People here work reasonably hard.
26. Most supervisors are fairly content with the efforts of their work forces.

Exhibit A1. (continued)

27. People here are very compatible with their work.
28. Occasionally, an employee makes a good suggestion for work improvement.
29. Most people hate their work.
30. There are usually good relationships between supervisors and subordinates.
31. People here are good workers, but you should not expect anything extra from them.
32. There is usually some resentment between supervisors and subordinates.
33. In general, people do not care about their work.
34. People in this area are *not* interested in their work.

reporting.[6] Translation presents the very real risk of insulting the foreign respondent. Not translating can result, however, in the foreign respondent not understanding the items.

Tests of words using Osgood's semantic differential analysis are somewhat helpful in dealing with this problem, but this analysis is cumbersome and cannot highlight all the problem words.[7] A more direct way to circumvent these difficulties is to have the instrument translated into the foreign language by a foreign national and then retranslated back into English by a different translator.[8] Most significant connotation problems resulting from translation should be discovered at this point, but some ambiguity can still be detected.

The language problem may cause the researcher to translate instruments only when it appears necessary. Studies of multinational companies that have many foreign managers who speak English (or the language of the home country) might make the use of English or the home country attractive.

In a recent study of a multinational corporation, both English and translated survey copies were sent to foreign national managers, some whose English skills were good and some whose English skills were limited. Eighty-one of eighty-two possible non-English surveys

[6] Frederick D. S. Choi and Gerhard G. Mueller, *An Introduction to Multinational Accounting* (Englewood Cliffs, N.J.: Prentice-Hall, 1977), 255.

[7] For a discussion of Osgood's Semantic Differential Scale, see Raymond L. Gorden, *Unidimensional Scaling of Social Variables: Concepts and Procedures* (New York: Free Press: 1977), 40–42.

[8] R. W. Brislin, "Back Translation for Cross-cultural Research," *Journal of Cross-Cultural Psychology*, vol. 1 (1970), 185–216; and William Whitely and G. W. England, "Managerial Values as a Reflection of Culture and Process of Industrialization," *Academy of Management Journal*, vol. 20, no. 3 (1977), 445.

were returned when the respondents had the choice between the English and the translated instruments.[9] Accordingly, it appears that the translation risk is worth taking.

CONCLUSION

Survey measurement is a necessary procedure to advance international accounting research. All of the difficulties and flaws of survey research that pertain to the social science disciplines pertain to international accounting. In addition, the international dimension of the research creates more difficulties for the survey researcher. Careful selection of scaling techniques, such as Likert and Thurstone scales where they best apply, and careful translation of instruments can, however, produce reliable research results.

APPENDIX: AN ILLUSTRATION OF THE THURSTONE METHOD

This illustration presents a part of the pretest item pool and item selection worksheets used to develop an instrument to measure the favorableness to business managers of their operating environments across several countries. The selected items became part of a survey instrument that attempted to explain variations in assessed usefulness of managerial accounting information across nations in a multinational company using the Farmer-Richman variables.

The operating environment was divided into four subconstructs with an initial item pool of 125 items, which were eventually reduced to 39 items for the survey instrument. In this illustration, one of the subconstructs, worker attitudes, is reduced from 34 to 11 items. The other Farmer-Richman subconstructs not presented here are the educational, political-legal, and economic environments.

Step 1. Define the construct to be measured.
Worker attitude environment: the perceived favorability of local worker attitudes that affect the control of business operations.

Step 2. Through introspection, literature review, and suggestions from others, develop an item pool that is within the domain of the defined construct. The items should be positive, negative, and neutral and should attempt to include the entire scale of the attitude. See Exhibit A1.

Step 3. Administer the pretest to judges, asking them to sort the questions according to low level of the attitude (low favorability — 1) to high level of the attitude (high favorability — 6). Be sure that the judges rate the items and do not express their own opinions. Calculate the scale value, median (Md) of the sortings or Q_2, and the ambiguity index, $Q_3 - Q_1$, for each item. See Exhibit A2.

[9] James A. Schweikart, "Manager Perception of the Relevance of Managerial Accounting Information: A Multinational Analysis," *Accounting, Organizations and Society* (November 1986), 541–54.

Exhibit A2. Thurstone Worksheet Worker Attitude Environment

	Distribution										Q_3-Q_1
Item	1	2	3	4	5	6	Total	Q_3	Md	W_1	ambiguity index (AI)
1	0	1	1	3	13	10	28	5.30	4.69	4.15	1.15
2	0	0	0	0	9	19	28	5.63	5.26	4.78	.85
3	16	12	0	0	0	0	28	1.42	.88	.44	.98
4	7	14	5	1	0	0	26	2.00	1.50	1.00	1.00
5	0	0	1	10	16	1	28	4.62	4.19	3.60	1.02
6	5	18	5	0	0	0	28	1.89	1.50	1.11	.78
7	7	18	2	1	0	0	28	1.78	1.39	1.00	.78
8	1	0	10	9	8	0	28	4.13	3.33	2.60	1.53
9	16	8	3	1	0	0	28	1.63	.88	.44	1.19
10	8	13	5	1	1	0	28	2.00	1.46	.88	1.12
11	0	0	0	3	19	6	28	4.95	4.58	4.37	.58
12	0	0	0	3	20	5	28	4.90	4.55	4.20	.70
13	14	11	3	0	0	0	28	1.64	1.00	.50	1.14
14	0	1	13	12	2	0	28	3.58	3.00	2.46	1.12
15	16	12	0	0	0	0	28	1.42	.88	.44	.98
16	0	1	6	14	7	0	28	4.00	3.50	3.00	1.00
17	0	0	3	12	13	0	28	4.46	3.92	3.33	1.13
18	0	0	2	12	13	1	28	4.54	4.00	3.42	1.12
19	3	15	9	1	0	0	28	2.33	1.73	1.27	1.06
20	26	2	0	0	0	0	28	.81	.54	.27	.54
21	4	14	7	3	0	0	28	2.43	1.71	1.21	1.22
22	0	0	1	0	9	18	28	5.61	5.22	4.67	.94
23	1	2	14	5	6	0	28	3.80	2.79	2.29	1.51
24	0	0	0	2	12	14	28	5.50	5.00	4.42	1.08
25	0	0	1	8	17	2	28	4.71	4.29	3.75	.96
26	0	0	0	11	17	0	28	4.59	4.18	3.64	.95
27	0	0	0	6	18	4	28	4.83	4.44	4.06	.77
28	1	1	5	13	7	1	28	4.14	3.54	3.00	1.14
29	26	1	0	0	1	0	28	.81	.54	.27	.54
30	0	0	0	11	13	4	28	4.77	4.23	3.64	1.13
31	0	4	12	12	0	0	28	3.42	2.83	2.25	1.17
32	8	15	5	0	0	0	28	1.87	1.40	.88	.99
33	22	6	0	0	0	0	28	.95	.64	.32	.63
34	24	4	0	0	0	0	28	.88	.58	.29	.59

Step 4. Reorder the item pool according to scale values and select items with the lowest ambiguity indices. Be sure to include the entire scale with items from low to high. See Exhibit A3.

Step 5. Random order selected prescaled items and place them on the final instrument.

Step 6. Repeat this for all other constructs, steps 1–5.

Exhibit A3. Item Selection: Worker Attitude Environment

Item*	Scale value (Md)	Ambiguity index (AI)	Selected items (X)	Prejumbled survey item**
20	.54	.54	X	29
29	.54	.54		
34	.58	.59	X	30
33	.64	.63		
15	.88	.98		
9	.88	1.19		
3	.88	.98		
13	1.00	1.14		
7	1.39	.78		
32	1.40	.99	X	31
10	1.46	1.12		
6	1.50	.78		
4	1.50	1.00	X	32
21	1.71	1.22		
19	1.73	1.06		
23	2.79	1.51		
31	2.83	1.17	X	33
14	3.00	1.12	X	34
8	3.33	1.53		
16	3.50	1.00		
28	3.54	1.14		
17	3.92	1.13	X	35
18	4.00	1.12		
26	4.18	.95		
5	4.19	1.02		
30	4.23	1.13	X	36
25	4.29	.96		
27	4.44	.77		
12	4.55	.70		
11	4.58	.58	X	37
1	4.69	1.15		
24	5.00	1.08		
22	5.22	.94	X	38
2	5.26	.85	X	39

* Items are arranged in ascending order of scale value.
** Items 1–28 were included in the other subconstructs.

Step 7. Translate the instrument using the Back Translation Technique.

Step 8. Administer the survey to respondents asking that they select only those statements that describe their attitudes and that they ignore the other statements. Calculate the means and distributions from the chosen prescaled items.

Cash-Flow Reporting: A Step toward International Harmonization

DAVID E. MIELKE and DON E. GIACOMINO*

In recent years, especially in the United States, the accounting profession has given increased attention to the benefits of and the need for reporting the sources and uses of cash. After two years of deliberations, the task force on cash-flow reporting of the Financial Accounting Standards Board (FASB) prepared a final draft of a proposed statement of financial accounting standards (SFAS). The resulting standard, SFAS No. 95, requires U.S. firms to use a "cash" concept of funds. Clearly these efforts by FASB derive from increased pressure from users of financial statements for better and more informative disclosures of transactions that involve cash (or "near cash," e.g., liquid resources) items.

Globalization of international capital markets has increased the need to improve financial reporting. Wide reporting variations among countries reduce the reliability and effectiveness of financial analysis of transnational corporations. These variations affect the usefulness of balance sheet and income statement disclosures, and, to a lesser degree, the statement of cash flows.

The recent emphasis on cash flows is not merely a U.S. phenomenon. In fact, a detailed examination, by the authors, of financial statements of European corporations indicated that the great majority of those corporations use a cash, or "near cash," concept of funds on the statement of changes in financial position. The examination revealed numerous differences among the corporations in reporting funds flows.

* David E. Mielke is Associate Professor of Accounting, Marquette University.
Don E. Giacomino is Associate Professor and Chairman of Accounting, Marquette University.

This article reports the results of the examination of European cash-flow statements with the objective to propose specific cash-flow requirements for consideration by the International Accounting Standards Committee (IASC). One of IASC's major goals is to promote the international harmonization of accounting practices.[1] Cash-flow reporting provides IASC with an excellent opportunity to be proactive (rather than reactive) to FASB standards. Although differing laws, customs, business practices, and social standards among nations will always require some differences in financial reporting, similarities among nations allow a degree of uniformity.

This article begins with an overview of the current and proposed standards (of both the United States and IASC) on funds-flow reporting. The article then reports the results of an examination of European funds-flow statements, which identified seven issues; it analyzes and summarizes the results of the examination; discusses the relevance to FASB standards; and gives specific recommendations for international reporting of funds flows on a cash basis. The scope is restricted to annual reports between 1984 and 1986 for European corporations and to accounting issues that have no apparent or known differences in law, custom, or other accounting practice that would prohibit uniform treatment of the issue.

The European countries included in the examination are Germany, the United Kingdom, Ireland, the Netherlands, Switzerland, France, Sweden, and Italy. These countries were chosen because they represent a cross-section of European countries that either (1) require a statement of changes in financial position, (2) have as customary practice the preparation of a funds statement, or (3) have only a minority of companies presenting this information. The sample size for each country of the companies that prepare a statement of changes in financial position was affected by its placement in one of these three categories.[2]

CURRENT AND IMPENDING STANDARDS

International Accounting Standard (IAS) No. 7 is the authoritative international standard on reporting funds flows in a Statement of Changes in Financial Position. The standard allows considerable flexibility in format and concept of funds. Although most corporations are concerned primarily with complying with the national

[1] John Turner, "International Harmonization: A Professional Goal," *Journal of Accountancy* (January 1983), 66.

[2] The Price Waterhouse "International Survey of Accounting Principles and Reporting Practices" (1979) classifies the sixty-four countries surveyed according to these groupings.

requirements, evidence indicates that some corporations take international (IAS) requirements seriously. An example is the following footnote to the statement of changes in financial position for the Fiat Group in 1985:

> The statement of changes in financial position for the year 1985 has been presented in a new format in order to give a clearer presentation of funds' flows and in line with developments in international financial reporting practices.

IASC issued Statement 7, *Statement of Changes in Financial Position,* in October 1977, recommending that a funds statement should be included as an integral part of the financial statements. IAS 7 does not prescribe the format, disclosures, or definition of funds but discusses these items in general terms. The guidelines allow each enterprise to adopt the form of presentation that best fits its own circumstances. Because these guidelines are so general, one objective of this survey is to investigate how companies report funds-flow transactions.

Opinion No. 19 of the Accounting Principles Board (APB) required all U.S. firms to prepare a statement of changes in financial position. Under the standard, firms could use a cash, near cash, or working capital concept of funds and (1) could separately disclose funds from operations and extraordinary items; (2) follow the all-financial-resources concept; and (3) use either the direct or indirect method of reporting funds from operations. SFAS No. 95[3] issued in November 1987 requires use of a cash (or near cash) concept of funds. This concept of funds is consistent with FASB's concern for usefulness of accounting information for predicting cash flows. Another significant aspect of the standard is the requirement that cash flows be classified as operating, financing, and investing. Noncash financing and investing activities would be shown in separate schedules but not as part of the major line items in investing and financing. Consistent with Opinion No. 19, per-share data are prohibited.

EUROPEAN FUNDS-FLOW STATEMENTS

Seven issues related to funds flow reporting were included in the examination:

1. Which specific definition of "funds" was used?

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[3] Financial Accounting Standards Board, *Financial Accounting Standard No. 95,* "Statement of Cash Flows" (Stamford, Conn.: FASB, 1987).

2. Are funds from operations disclosed separately?
3. Is the direct or indirect method (of disclosing funds from operations) used?
4. Are financing and investing activities separately disclosed?
5. Are there separate totals for sources and uses of funds?
6. Is the "all-financial-resources" concept used?
7. How are the following items reported in the funds flow statement: (a) interest; (b) dividends; (c) extraordinary items; (d) foreign currency adjustments; and (e) taxes?

Exhibit 1 presents the information relating to the statement of changes in financial position for forty-five companies in the eight countries. The countries are categorized in column 1 as to those in which the statement is required (R), a predominant practice (P), or a minority practice (M). The number of companies using the definition of funds as cash (C) or working capital (WC) is shown in columns 2 and 3, respectively. Column 4 includes the number separately disclosing funds from operations (FFO), and columns 5 and 6 tabulate whether funds from operations are computed using the indirect (IN) or direct (DIR) methods.

The seventh, eighth, and ninth columns include the number of

Exhibit 1. Statement of Changes in Financial Position Reporting Practices

		C	WC	FFO	IN	DIR	F	I	B	S	AFR
France (4)	R	2	2	3	4	0	0	0	0	2	0
Germany (5)	M	4	1	3	5	0	1	0	0	4	0
Ireland (2)	R	1	1	1	2	0	0	0	0	2	0
Italy (1)	M	1	0	1	1	0	0	0	0	1	0
The Netherlands (8)	P	6	2	7	8	0	0	0	1	8	0
Sweden (7)	P	7	0	5	7	0	0	0	5	0	0
Switzerland (3)	M	2	1	2	3	0	0	0	1	3	0
The United Kingdom (15)	R	12	3	12	15	0	0	0	0	10	1
Totals *(45)		35	10	34	45	0	1	0	7	30	1

* The number in parentheses represents the number of companies whose annual reports were surveyed from the country.
C: Cash
WC: Working capital
FFO: Funds from operations
IN: Indirect method
DIR: Direct method
F: Financing activities
I: Investing activities
B: Both financing and investing
S: Sources and uses of funds
AFR: All financial resources

companies that also separately disclose funds from financing (F) or investing (I) activities, or both (B). Column 10 indicates the total number of firms that separate (S) sources and uses of funds. The final column in Exhibit 1 is for the number of companies reporting sources and uses of funds using the all-financial-resources concept (AFR).[4] In some instances, corporations may have had no transactions that qualify as AFR transactions. The final column total treats these as nonreported cases for AFR purposes.

Data in Exhibit 2 summarize the survey results relating to specific line items of information (issue seven), which may appear in the statement of changes in financial position. FASB gives these items special attention in its current review of this statement; these items are to be separately identified as a result of the new FASB pronouncement. It is possible, especially in the case of extraordinary items, foreign currency adjustments, and dividends, that the survey results are limited because the companies did not have these types of transactions during the period.

For each of the five categories (interest, dividends, extraordinary items, foreign currency adjustments, and taxes) the first column includes the number of companies disclosing each as a separate item. The second column includes those companies that classify each of these items as part of operations. The maximum number

Exhibit 2. Statement of Changes in Financial Position Specific Line-Item Disclosures

	Interest		Dividends		Extra. item		For. curr.		Taxes	
	Yes	Oper	Yes	Oper	Yes	Oper	Yes	Oper	Yes	Oper
France (4)	0	0	1	0	1	0	2	1	0	0
Germany (5)	0	0	1	0	0	0	0	0	1	0
Ireland (2)	0	0	0	0	1	1	1	0	0	0
Italy (1)	0	0	1	0	0	0	1	1	0	0
The Netherlands (8)	0	0	5	1	1	1	1	0	1	1
Sweden (7)	2	2	7	5	1	1	1	1	5	5
Switzerland (3)	0	0	1	0	0	0	0	0	0	0
The United Kingdom (15)	0	0	11	1	9	4	10	5	13	0
Totals (45)	2	2	27	7	13	7	16	8	20	6

[4] The all-financial-resources concept refers to the investing and financing activities that do not involve cash. An example is an exchange of common stock for an asset such as a building or machinery.

possible in the second column is limited because only thirty-four of the forty-five companies in the survey had a separate classification for funds from operations.

Some interesting facts are included in Exhibits 1 and 2. Although not one of the eight countries requires a specific definition of funds as cash, or working capital, both the cash and working capital bases are used. The companies included in this survey predominantly use the cash basis (thirty-five of forty-five). The definition of "cash" varies within this group, but further analysis revealed the majority of companies using this approach explicitly defined *cash* as a total of cash, bank deposits, and short-term securities (cash plus cash equivalents).

A majority of the companies surveyed disclosed a separate category as funds from operations (thirty-four of forty-five); all of the companies used the indirect method to calculate sources of funds. Only eight of the forty-five companies surveyed prepared additional classifications relating to investing and financing activities, but the majority included these activities as other sources and uses.

The predominant practice of the companies (67 percent) in this survey was to provide separate subtotals for total sources and total uses as part of the calculation of net change in funds. Finally, only one example of the all-financial-resources concept was found in the forty-five statements. Perhaps relatively few companies had transactions of this type.

A general conclusion based on the information summarized in Exhibit 2 is that these companies provided limited information concerning interest payments, extraordinary items, foreign currency gains and losses, and taxes in the statement of changes in financial position. When corporations did provide the separate line-item disclosures, they seldom included these transactions as sources or uses of funds from operations. Only dividends were shown as a separate line item in the majority of annual reports (twenty-seven of forty-five), but of those twenty-seven, only seven included them as part of operations. Again, this data analysis is limited because some of these companies may not have had transactions resulting in the recognition of extraordinary items or foreign exchange gains and losses, for example. This limitation is somewhat reduced because all but one of the companies disclosed tax payments elsewhere in their annual report, and only twenty-seven showed them separately on the statement of changes.

IMPLICATIONS FOR INTERNATIONAL REPORTING STANDARDS

Based on the preceding examination of funds-flow reporting and the desirability of narrowing international reporting differences to achieve IASC's "harmonization" goal, the authors propose that IASC conduct a timely, in-depth analysis of the issue of reporting funds flow. This proposal suggests that IAS No. 7 is not comprehensive and fails to recognize sufficiently the increased importance of cash flows, nor does it narrow differences in reporting to the extent feasible.

This article does not suggest that IASC merely react to FASB's current standard by "rubber-stamping" SFAS No. 95; however, considering the considerable effort applied by FASB and its staff to the cash-flow reporting issue, we believe that it is wise to consider seriously each of FASB's requirements. IASC has an excellent information base available to determine more specific requirements for funds-flow reporting. In addition to FASB's requirements and summarized results of actual reporting practices, such as those provided here, IASC can use its knowledge of the specific requirements of each country to develop a standard that would enhance harmonization and improve international reporting.

The degree to which the majority of surveyed companies already conform to the cash basis, the definition of cash basis, these companies' use of the indirect method, separate disclosure of funds from operations, and a separation of total sources and total uses suggest that a reasonable degree of harmonization may already exist in practice. The narrowing of the alternatives available and the reduction of differences in format and content required for the presentation of the statement of changes in financial position may already be occurring.

At the same time, IASC needs to proceed cautiously when considering additional line-item disclosures such as interest payments, foreign currency gains and losses, taxes, and extraordinary items. Although FASB requires not only the disclosure of these items but also specific categories for the disclosures, this type of information is not presently presented by many of the surveyed firms. Based on this survey, few companies appear opposed to disclosing separately dividend payment information.

IASC could take advantage of these relatively uniform practices to structure its requirements to include these methods of disclosure. The all-financial-resources concept either has limited appliction or is not included in the statement except by one of the surveyed firms.

Exhibit 3. International Corporation Statement of Cash Flows For the Year Ended December 31, 1988

Cash flows from operations			
Net income*		$ 5,000	
Noncash items included in income			
Depreciation and amortization		1,400	
Deferred tax increases		250	
Net increase in receivables, inventory, and payables		(300)	
Increases in interest earned but not received†		(250)	
Increase in interest accrued but not paid†		(150)	
Gain on disposition of plant assets		(350)	
Net cash flow from operations			$ 5,600
Cash flow from investing activities			
Purchase property, plant, and equipment	($ 5,000)		
Less: Lease obligations incurred	250		
Net cash outflows for property, plant, and equipment		(4,750)	
Proceeds from sale of property, plant, and equipment		2,800	
Acquisition of other nation company		(3,100)	
Purchase of investment securities	(2,100)		
Sale of investment securities	1,400		
Net cash outflows for investment securities		(700)	
Loans made	(3,700)		
Collections on loans	4,400		
Net cash inflows from loans		700	
Net cash flow from investing activities			(5,050)
Cash flows from financing activities			
Increase in customer deposits		500	
Short-term borrowing		50	
Payments on short-term debt		(125)	
Long-term borrowing	3,800		
Less: New lease debts incurred	(500)	3,300	
Payments on lease debts		(300)	
Issuance of capital stock		1,200	
Dividends paid†		(225)	
Net cash flow from financing activities			4,400
Effect of exchange rates on cash			150
Net increase in cash			5,100
Schedule of noncash investing and financing activities			
Issuance of stock to retire debt		2,500	
Acquisition of property with long-term debt		1,000	

* In those countries that disclosed extraordinary transactions in the earnings statement, a breakdown of net income before and after these extraordinary transactions is suggested.

† For this example, interest and dividends are categorized as operating and financing activities, respectively. This is the suggested disclosure unless specific national requirements require other reporting.

We propose that IASC consider drafting a new IAS that would require firms to

- use a cash concept of funds;
- use cash, bank deposits, and short-term, highly liquid investments as the definition of cash;
- disclose separately (at a minimum) operating activities, and give additional consideration to separation of investing and financing activities;
- use the indirect method of reporting cash from operations;
- disclose all-financial-resources transactions in footnote form;
- provide separate line-item disclosure for dividends; and
- disclose the effect of foreign currency adjustments, interest payments, extraordinary items, and taxes.

Exhibit 3 depicts the proposed format for the statement of cash flows.

The statement of cash flows can be especially useful for financial analysis, because noncash items are separately identified and classified with respect to function (operations, financing, and investing activities). In addition, ratios derived from the statement of cash flows can provide information useful for performance evaluation. Ratios can be computed and used to measure the quality of earnings, financial management, mandatory funds flows, and discretionary funds flows.[5]

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[5] For more detail on these ratios, see Don E. Giacomino and David E. Mielke, "Preparation and Use of Cash Flow Statements," *CPA Journal* (March 1987) 30–35.

Industry Segment Identification and Social Responsibility Information Disclosure in Selected Canadian Companies

SADRUDIN A. AHMED and DANIEL ZÉGHAL*

The measurement and reporting of corporate social performance have received increasing attention in contemporary accounting literature. Surveys in several countries reveal a trend toward an increased public disclosure of corporate social responsibility as indicated in accounting data. For example, a study conducted in 1980 by the Conference Board revealed that all responding U.S. companies reported some disclosure of the social impact of the firm's activities.[1] As the reporting of social responsibility increased, this information has often been incorporated into the annual report. In France, for example, a 1977 law requires all firms employing more than 750 employees to publish a social accountability report.[2] An examination of new and proposed legislation in a number of countries including the United States, Britain, Australia, and New Zealand also reveals the increased pressure placed on companies to provide social accountability information.[3]

* Sadrudin A. Ahmed is Professor of Marketing at the University of Ottawa.
Daniel Zéghal is Associate Professor of Accounting at the University of Ottawa.
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[1] Seymour Lusterman, Managerial Competence: *The Public Affairs Aspects* (New York: The Conference Board, 1981), 4.
[2] M. Dierkes and R. Coppock, "Europe Tries the Corporate Social Report," *Business and Society Review* (Spring 1978), 21–24.
[3] Ken T. Trotman and Graham W. Bradley, "Associations between Social Responsibility Disclosure and Characteristics of Companies," *Accounting, Organizations & Society*, vol. 6, no. 4 (1981), 355–62.

In Canada, recent social, political, and economic developments have added greatly to the complexity of managerial tasks by increasing the variety of risks and opportunities that must be considered and understood as corporate financial strategies, policies, and plans are developed.[4] The increasing importance attached to these external impacts of Canadian management is indicated by the results of a study of the corporate social performance of Canada's 125 largest corporations, which reported greater corporate sensitivity to societal pressures in 1981 than in 1970 and 1975.[5] For example, the Royal Bank of Canada conducts regular surveys to examine the perceptions, attitudes, and beliefs of the various industries in Canada and to identify emerging trends in public opinion toward banks. This information enables the Royal Bank to make constructive changes in its business practices and to increase the effectiveness of its service to mainstream clients.[6]

To date, only a limited number of studies in Canada have investigated the actual content of the social performance information disclosed in corporate reports. Mason and Maxwell studied Canadian managements' attitude toward social responsibility.[7] They found that, with the exception of the issue of equal opportunities for members of minority groups (i.e., special recruitment and training programs for minorities), the major areas of disclosure were similar to those in the United States and Canada. Burke, who compared the disclosure of social accounting information of Canadian and U.S. *Fortune* 500 firms, reported findings similar to those of Mason and Maxwell.[8]

To augment the very limited number of studies of Canadian corporate reports, the authors' research concerning the impact of industry segment identification on companies' disclosure activities was undertaken to provide comprehensive data of the social performance information disclosure of two major Canadian industries, petroleum and banking. Burke's study was the only one to integrate the social information disclosed in the annual reports of Canadian firms. The categorization used in his study was,

[4] A. K. Mason and S. R. Maxwell, "The Changing Attitude to Corporate Social Responsibility," *The Business Quarterly* (Winter 1975), 44.
[5] L. J. Brooks, Jr., "An Attitude Survey Approach to the Social Audit: The Southam Press Experience," *Accounting, Organization & Society*, vol. 5, no. 3 (1980), 341–46.
[6] Alfred E. Levin, "Updating Social Responsibility," *Canadian Banker and ICB Review*, vol. 89, no. 5 (1982), 56–61.
[7] Mason and Maxwell, "Changing Attitude to Corporate Social Responsibility."
[8] Richard C. Burke, "The Disclosure of Social Accounting Information," *Cost and Management* (May/June 1980), 21–24.

however, ad hoc in nature rather than being based on a systematic analysis such as that used by other authors, such as Ernst and Ernst.[9] Burke did not discuss the importance attached to a disclosure in terms of qualitative (narrative data), quantitative (nonfinancial data) and/or monetary (financial data), or of the specific sections of the annual report used to disclose social information. The basic unit of analysis Burke employed was the presence or absence of social information disclosure,[10] rather than a more exact unit of analysis such as lines, phrases, or words.[11] By completing these important gaps in Burke's research, the present study attempts to provide a more meaningful account of social disclosure made by Canadian firms than has hitherto been available.

In planning this study, the authors were guided by Ingram, who found that the nature of the particular social responsibility disclosure made by a firm is linked to the industry segment with which it is identified.[12] He suggested that the impact of particular industry segments on social responsibility disclosure should be identified and analyzed by company-specific characteristics. Following Ingram's advice and limited by resources, the authors concentrated on two major but different industry segments, banking and petroleum, instead of conducting a broadly based and highly aggregated study. The petroleum industry produces and markets tangible products. Banks, on the other hand, provide a service that is basically an intangible product. Thus, the two industries have very different customer relations and public relations functions.

STUDY VARIABLES

Although the present research was of an exploratory nature, rigorous research procedures were applied to obtain a high-quality data base. A discussion of the trends in social performance information disclosure writings to place the parameters of the present study in a proper perspective follows.

A survey of the available literature on this emerging topic indicates that the study of social responsibility disclosure considers both the type of information disclosed and the format used to

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[9] E. Ernst and N. Ernst, *Social Responsibility Disclosure: 1978 Survey* (Cleveland: Ernst and Ernst, 1978).
[10] Burke, "The Disclosure of Social Accounting Information."
[11] H. H. Kassarjian, "Content Analysis in Consumer Research," *Journal of Consumer Research*, vol. 4, no. 1 (1977), 8–18.
[12] Robert W. Ingram, "An Investigation of the Information Content of (Certain) Social Responsibility Disclosures," *Journal of Accounting Research*, vol. 16, no. 2 (1978), 270–85.

disclose. Over the past decade, a variety of approaches and of methods to analyze corporate social performance has been developed. A major dichotomy has developed between those who emphasize an analysis of the social response processes based on a detailed study of organizational experience and decision making and those who emphasize the development of formal reporting systems based on quantitative data. The present study basically concerns the reporting systems.

Two groups exist among the analysts involved with the development of reporting systems. One group emphasizes the specific socially desirable activities performed by the firm being analyzed; the other group emphasizes these activities as broad categories of issues or concerns relevant to the larger corporate social environment.[13] The present research takes the latter approach in its analysis of social performance by investigating these categories of issues or concerns. The study contains a set of general social performance categories that would be relevant to almost any business of significant size[14] and adapts them to the reality of the Canadian environment and the particular industries studied, petroleum and banking. Variations of this approach have been used extensively by other accounting researchers. Preston suggested an analysis of social performance that distinguishes between monetary, quantitative, and narrative information; this study also distinguishes among these types of information.

The rating of disclosure in this paper is based on the presence or absence and the degree of specificity of various information items. Because of certain common denominators that provide direct comparisons, quantitative and monetary measures are treated as the preferred disclosure form,[15] although such disclosure is not common. This study did not attempt to weigh monetary, quantitative, and narrative information or to prepare various indices of information disclosure as Wiseman did (1982) in assessing the environmental performance of U.S. multinationals.[16] Nevertheless, narrative, quantitative, and monetary information items are shown separately to allow a better assessment of the social performance of sample firms in a comprehensive manner.

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[13] Archie B. Carroll, ed., *Managing Corporate Responsibility* (Boston: Little, Brown and Company), 1977.
[14] Lee E. Preston, "Analyzing Corporate Social Performance: Methods and Results," *Journal of Contemporary Business* (Winter 1978), 135–49.
[15] Council on Economic Priorities, *The CEP Report* (New York: CEP, 1975).
[16] Wiseman, "An Evaluation of Environmental Disclosures Made in Corporate Annual Reports," *Accounting, Organizations and Society*, vol. 7, no. 1 (1982), 53–63.

SAMPLE

A sample consisting of the six largest Canadian banks and nine largest Canadian petroleum companies, representing over 80 percent of these industries' assets, was selected for the study. The annual reports of these industries are widely recognized for their inclusion of a significant amount of social responsibility information. Thus, by selecting these industries, the authors wished (1) to assess the importance of information disclosure categories across each industry, (2) to compare the quality (type of words) and quantity (number of words) of disclosure each provides, and (3) to compare how these disclosures vary in different sections of each industry's annual reports.

Both industries have recently been scrutinized publicly, although for different reasons. The attention to the petroleum industry was related to energy shortages and the industry's equity structure; banks were studied as to their monopolistic nature and high profits.

To increase the reliability of the study and to evaluate the year-to-year fluctuations in social information disclosure, the data were collected for both 1981 and 1982.

METHOD

This study used the Beresford and Cowan adaptation of the Ernst and Ernst procedure to classify data into discrete information disclosure categories.[17] A description of the categories used to classify the data is presented in Exhibit 1. Descriptive words used in the annual report were tabulated as they related to these categories. Whole sentences and logical parts of sentences were classified according to monetary, quantitative, and narrative information presented. For example, the statement "$50,000 was invested in project A" was considered as six words, monetary.

The majority of the studies concerning the disclosure of corporate social performance in annual reports have considered the presence or absence of information regarding a subject area as the unit of analysis.[18] Such a unit of analysis does not, however, give a precise indication of the emphasis given to a subject area. This problem becomes particularly acute when data are limited to two industries and fifteen firms, as was the case with this research. One solution to this problem is to utilize the approach provided by

[17] Dennis R. Beresford and Scott S. Cowan, "Surveying Social Responsibility Disclosure in Annual Reports," *Business: The Magazine of Managerial Thought and Action*, vol. 29, no. 2 (1979), 15–20.

[18] Wiseman, "Evaluation of Environmental Disclosures."

Exhibit 1. Description of Categories

Environment:
1. Pollution control in the conduct of business operations
2. Prevention or repair of damage to the environment resulting from processing natural resources
3. Conservation of natural resources
4. Other

Energy
5. Conservation in the conduct of business operations
6. Efficiency of products
7. Other

Fair business practices
8. Employment of minorities
9. Advancement of minorities
10. Employment of women
11. Advancement of women
12. Employment of other special interest groups
13. Support for minority businesses
14. Socially responsible practices abroad
15. Other

Human resources
16. Employee health and safety
17. Employee training
18. Other

Community involvement
19. Community activities
20. Health-related activities
21. Education and arts activities
22. Other

Products
23. Safety
24. Reducing pollution resulting from use of products
25. Other

Other social responsibility disclosures
26. Other

Ingram and Frazier, who used sentences as the unit of analysis.[19] Given research objectives, the present study attempted an even greater amount of specificity by using words as the unit of analysis — a procedure recommended for business research by Kassarjian.[20]

[19] Robert W. Ingram and Katherine Beal Frazier, "Environmental Performance and Corporate Disclosure," *Journal of Accounting Research*, vol. 18, no. 2 (1980), 614–22.

[20] Kassarjian, "Content Analysis in Consumer Research."

An independent judge, a graduate student familiar with content analysis procedures, was provided copies of the category descriptions (see Exhibit 1) and work sheets on which to identify the number of items in each category for each firm. The judge was instructed to read each sentence/statement in the annual report and to indicate on the work sheet the number of words corresponding to the appropriate category. All ambiguous statements were discussed with the authors to determine proper classification. The number of words was then added to determine the total score for a firm and for the industry.

RESULTS AND DISCUSSION

Disclosure of Social Performance Information by Categories by Banks

Results reported in Exhibit 2 indicate that some similarity existed among the banks in terms of the emphasis they placed on the social information categories; most of the disclosure words were concentrated in three categories; human resources, products, and fair business practices. The human resources category was found to be the most important disclosure category both in terms of total number of disclosure words and in percent of words in quantitative and monetary form. This result is probable because information of the employees' salaries, wages, pension plans, and job security arrangements are quantifiable and are often required by law.

Examination of the disclosure pattern of the banks studied indicates that all of the banks disclosed social information concerning business practices, human resources, and products categories. None of the banks disclosed information of the environment category, however; only one disclosed social information concerning the energy category.

The social information disclosure described followed a pattern closely related to the operation of the Canadian banking industry. Levin defines public relations and social involvement as adaptive mechanisms used by a corporation to help it to identify problem areas directly related to its business operations and to act on them.[21] This approach to corporate responsibility to society seemed to have been adopted by the Canadian banks.

Disclosure of Social Performance Information by Categories by the Petroleum Industry

Unlike the Canadian banking industry, the Canadian petroleum industry disclosed social information relating to all categories. All of the petroleum companies disclosed social information of the

[21] Levin, "Updating Social Responsibility."

Exhibit 2. Cross-Classification of Social Information According to Type of Words and Disclosure Categories

	Social information disclosure categories							
	Banks							
Type of words	Environment	Energy	Business practices	Human resources	Community involvement	Products	Other	All categories
Narrative*	—	100%	91%	65%	93%	92%	96%	82%
Quantitative*	—	—	4	18	6	8	4	10
Monetary*	—	—	5	17	1	0	0	8
Total words in category	—	50	2,599	5,818	1,841	3,574	944	14,781
Category†	0	0	18%	39%	13%	24%	6%	100%
Reporting firms	0	1	6	6	6	6	5	6
	Petroleum companies							
Narrative*	88%	87%	92%	62%	87%	96%	87%	78%
Quantitative*	5	4	2	22	7	4	4	12
Monetary*	7	9	6	16	6	0	9	10
Total words in category	2,224	1,239	1,985	10,172	2,332	1,473	1,723	21,248
Category†	10%	6%	9%	48%	11%	7%	8%	100%
Reporting firms	8	8	8	9	7	9	8	9

* Percent of the words used by an industry to disclose social information in category.
† Percent of the words used by an industry to make social information disclosure.

human resources and products categories. The social information disclosure category with the lowest number of disclosure words was community involvement (only two of the nine companies did not disclose this information).

The human resources category was the most frequently disclosed social information category in terms of the total words. The products category ranked second for the banks (24 percent of the disclosure words); this category ranked sixth with the petroleum companies (7 percent of the disclosure words). Environmental disclosure was third among the petroleum companies (10 percent of the disclosure words), but its rank was last (0 percent) for the banks. The relatively lower proportion of words in the products category than in the human resources category for petroleum companies may be due to the sample companies' desire to protect confidential, product-related data from their competitors.

Petroleum companies reported more information concerning their contributions to artistic, health, and educational programs than did banks. Because petroleum companies have relatively limited direct contact with their final customers, such community involvement enables petroleum companies to present a more human persona. In addition, such contributions can create the image of an ecologically conscious entity, a particularly important image for petroleum companies, which often negatively impact the environment through their oil and gas exploration, extraction, and transportation activities. Thus, social disclosure categories of community involvement and environmental concerns are apparently important for the petroleum companies.

Canadian and U.S. Data Compared

According to a study of U.S. banks by Beresford and Cowan,[22] the least disclosure by U.S. banks was in the environment (9 percent) and energy (13 percent) categories. Unlike Canada, where human resources ranked as the most important disclosure category, the U.S. ranked the fair business practices category as the most important (91 percent of the banks). The human resources category was third among reporting companies in the United States, but in Canada, this category was first, and fair business practices ranked third. The greater importance placed on fair business practices in the United States agrees with the earlier findings reported by

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[22] Beresford and Cowan, "Surveying Social Responsibility Disclosure in Annual Reports."

Burke (1980) and Mason and Maxwell;[23] these studies attribute this discrepancy between Canadian and U.S. banks to the greater level of attention that U.S. firms pay to equal opportunities for minority groups. The increasing strength of the women's movement in Canada and the April 1985 Canadian Charter of Rights guaranteeing the rights of women and minorities will most likely affect the importance placed on fair business practices in the future.

Preston, Rey, and Dierkes noted the low level of reporting of the human resources category by commercial banks in the United States.[24] They state that in the United States, the work environment and the status of employees are conspicuously omitted from consideration as aspects of corporate social performance, except for the special concern with the status of women, minorities, and disadvantaged groups.

Beresford and Cowan attributed the low disclosure rates in the environment and energy categories by U.S. banks to the service-oriented nature of that industry.[25] Similar reasons may account for the absence of disclosure by Canadian banks in these same categories.

The Canadian petroleum and banking companies included in this study disclosed more complete monetary and quantitative information (100 percent of the firms) than comparable U.S. firms (40 percent). This may be due to the relatively larger size of the companies in the present sample. Other reasons, such as the greater degree of governmental interventions in the Canadian economy and more widespread and stringent regulation of Canadian banking and petroleum industries, may also exist.

Type of Words Used for Disclosure by Banks and Petroleum Companies

The percentage and total number of narrative, quantitative, and monetary words used by Canadian banks and the petroleum companies indicated that most of the information for both industries was narrative.

Petroleum companies provided more information (more total words) on environment, energy, and human resource categories than did banks; they also provided this information using a larger percentage of monetary and quantitative words. For both banks

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[23] Burke, "The Disclosure of Social Accounting Information" and Mason and Maxwell, "Changing Attitude to Corporate Social Responsibility."

[24] Lee E. Preston, Francoise Rey, and Meinolf Dierkes, "Comparing Corporate Social Performance: Germany, France, Canada and the U.S.," *California Management Review*, vol. 20, no. 4 (1978), 40–49.

[25] Preston, "Analyzing Corporate Social Performance," 135–49.

and petroleum companies, the largest proportion of words was used for the human resources category; the category's importance was reflected in the disclosures that were made with a larger proportion of more specific monetary and quantitative data. In terms of interindustry comparisons, petroleum companies used somewhat more monetary words for community involvement than did the banks (6 percent vs. 1 percent for the banks), and other categories (9 percent vs. 0 percent for banks), thus confirming the greater willingness of petroleum companies to provide monetary data.

Disclosures in the Sections of Annual Reports

Results concerning the quantity, type, and forms of disclosure in the various sections of the annual report are included in Exhibit 3. Annual reports have traditionally contained only financial statements. When social information disclosures were less common, such practice seemed quite appropriate. The growing demand for social information disclosure presents different reporting challenges, however, from those historically faced by accountants and company executives. As Exhibit 3 indicates, most social information disclosure by Canadian banks was presented in sections other than those pertaining to financial data, such as the operations review (34 percent) and special sections (26 percent).

A description of the type of words used in the various sections of the annual reports of the banks indicates that monetary words were most likely to be used for the financial statements, financial review comments, and notes to the financial statements. The monetary information in the notes to financial statements related to human resources and fair business practices categories. Some of this information is required by law, specifically the data pertaining to pension plans, profit-sharing plans, disclosures of nonarms'-length payments, and the possible effects of pending lawsuits. Quantitative words were also frequently present in the financial review section (36 percent). Narrative words predominated in the letter to shareholders, operations review, other sections, and notes to financial statements. These results agree with the stated purpose of these sections of the annual report.

The data of the petroleum companies indicate that they appear to follow an information disclosure pattern generally similar to that of the banks, but with some notable exceptions. Petroleum companies disclosed less information in the letters to shareholders (9 percent vs. 22 percent for the banks) but more in the notes to financial statements (20 percent vs. 12 percent for the banks). The

Exhibit 3. Quantity, Type and, Category of Disclosure in Various Sections of the Annual Report

Banks							
Percent of section by the type of words used							
	Letter to shareholders	Operations review	Financial review	Financial statements	Notes to financial statements	Other	All sections
Narrative*	91%	88%	35%	37%	69%	82%	81%
Quantitative*	9	11	36	7	5	12	11
Monetary*	—	11	29	56	26	6	8
Number of words by information categories							
Environment	0	0	0	0	0	0	0
Energy	0	0	0	0	0	50	50
Business practices	731	1,035	93	0	466	259	2,584
Human resources	1,001	1,115	567	226	1,279	1,630	5,818
Community involvement	21	548	0	0	0	1,287	1,856
Product	1,000	2,177	50	0	0	347	3,574
Other	450	187	0	0	0	307	944
All categories	3,203	5,062	710	226	1,745	3,380	14,826
Percent†	22%	34%	5%	1%	12%	26%	100%

Exhibit 3. (continued)

Petroleum companies

	Letter to shareholders	Operations review	Financial review	Financial statements	Notes to financial statements	Other	All sections
Percent of section by the type of words used							
Narrative*	94%	82%	71%	—	50%	82%	76%
Quantitative*	5	11	22	1	20	11	13
Monetary*	1	7	7	—	30	6	11
Number of words by information categories							
Environment	0	1,372	20	0	0	832	2,224
Energy	190	785	0	0	0	260	1,235
Business practices	205	1,000	0	0	590	194	1,989
Human resources	842	2,009	738	16	3,688	2,879	10,172
Community involvement	0	277	0	0	18	2,084	2,379
Product	34	1,182	18	0	0	192	1,426
Other	511	623	17	0	0	572	1,723
All categories	1,782	7,248	793	16	4,298	7,015	21,148
Percent†	9%	34%	4%	1%	20%	33%	100%

* Percent of the words used by an industry to disclose social information in a section of the annual report.

† Percent of the words used by an industry to disclose social information.

percentage of social information provided in monetary and nonmonetary disclosure varied little between banks and petroleum companies. Marked differences did exist, however, in the sections of the annual report in which such information was disclosed. Thirty percent of the nonmonetary quantifications of the petroleum companies was by notes to financial statements as opposed to 6 percent for the banks. Petroleum companies quantified more disclosure monetarily through notes to financial statements (55 percent) than banks (41 percent). These disclosure differences may be explained by the fact that petroleum companies tend to provide a larger proportion of their disclosure in the human resources and business practices categories in monetary and quantitative formats by notes to financial statements.

Social responsibility disclosures appear in various sections of the annual reports of both Canadian banks and petroleum companies. Although disclosure patterns for these industries were more similar than dissimilar, some industry-specific disclosure pattern differences were noted. These differences in the use of the various sections of the annual report by the banks and petroleum companies may be explained by the role played by individual shareholders of the organizations. Bank shares are held much more widely than are those of the petroleum companies. The letters to shareholders and the financial review comments should be relatively more important to the banks because of their value as a public relations tool; more social information disclosure and quantifiction by the banks would be expected in these sections. According to Benjamin, Stanger, and Strawser, who reported on the attitudes of management accountants regarding several key aspects of the overall social reporting issue,[26] accountants believe that corporate managers tend to limit disclosure to those items that make the firm appear socially responsible. To improve the usefulness of the annual reports, accountants recommended that social disclosure information should be either in a letter to shareholders or in the annual report, possibly in a special section. This advice appears to have been followed by both banks and petroleum companies.

CONCLUSIONS

The data may suggest that the most frequently reported social responsibility category, the form of social information disclosure, and the sections of the annual report used to convey the information

[26] James J. Benjamin, Keith G. Stanger, and Robert H. Stawser, "Disclosure of formation Regarding Corporate Social Responsibility," *Managerial Planning* (July/August 1978), 23–27.

are related to a company's operations. These data also indicate that there are important interindustry similarities and differences among the companies studied. The data regarding Canadian firms follow Ingram's thesis[27] based on U.S. data indicating that the quantity, type, and category of social information disclosure made by a firm are linked to the industry segment with which it is identified. For example, the banks, unlike the petroleum companies, emphasized products but ignored energy and environmental categories.

One major conclusion on the basis of these findings is that despite the lack of governmental regulations or well-established standards, a sufficient degree of interindustry standardization in the method of reporting exists so that valid comparisons can be made. This uniformity in the reporting style appears to be flexible enough to allow specific differences of industry categories in the nature of the social information disclosure to emerge.

This study raised many additional questions. The disclosure categories based on the Ernst and Ernst classification plan[28] were designed to reflect the social information disclosures made in annual reports in the United States. Future researchers may develop and validate rigorous classification systems that indicate the disclosure categories most suited to reflecting the Canadian reality.

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[27] Robert W. Ingram, "An Investigation of the Information Content of (Certain) Social Responsibility Disclosures," *Journal of Accounting Research*, vol. 16, no. 2 (1978), 270–85.

[28] Ernst and Ernst, *Social Responsibility Disclosure: 1978 Survey.*

Accounting, Economic, and Environmental Determinants of Financial Reporting Practices in Guatemala

ALEJANDRO AGUIRRE and MOSHE HAGIGI*

The objective of this study is to explore the primary factors shaping the accounting practices in Guatemala and to examine their impact on the financial ratio norms of Guatemalan firms. The purpose of this research is twofold: to help practitioners and to contribute evidence to international accounting theory. To assist accountants, investors, and other potential readers of international financial statements, particularly of Central American countries, this paper endeavors to provide a better understanding of Guatemalan accounting practices and to allow a better performance evaluation of Guatemalan firms. To contribute to the literature regarding the developmental theory of accounting practices in different environments, this paper explores the determinants of the differences among those practices, as well as the way these factors affect the financial ratio norms in different countries.

An evaluation of a local company by comparing its financial ratios to foreign financial ratio norms is usually meaningless because of differences in accounting methods, tax regulations, economic and market structure, legal requirements, sociological consider-

* Alejandro Aguirre is President, Megasistemas Internacional, S. A., and Professor of Finance, Graduate School of Business, Francisco Marroquin University, Guatemala City.

Moshe Hagigi is Associate Professor of Accounting, School of Management, Boston University.

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tions, and other environmental factors. In particular, a comparison between Guatemalan and U.S. financial ratio norms lacks meaning because of the extreme differences between the two countries. Accordingly, this study explores the main determinants of the differences in the financial ratio norms between Guatemalan and U.S. firms; it also estimates the direction and the approximate magnitude of the adjustments needed to enable a more meaningful comparison of firms' performance across the two countries.

Financial ratio analysis is a widely used tool for financial performance evaluation through measures of efficiency, risk, and profitability.[1] This method of analysis should, however, be applied carefully to foreign or multinational corporations. Each country usually has a unique set of norms for financial ratios. These norms are determined by such factors as the accounting principles and practices prevailing in the country, the tax regulations, the economic conditions, and other environmental characteristics. Choi et al. discussed the use and misuse of international financial ratios[2] in the context of South-East Asian, and particularly Japanese, corporate reporting. Frank made an empirical analysis of international accounting principles,[3] and Gray presented some European evidence on the impact of international differences from a security-analyst perspective.[4] Drury analyzed the effects of accounting practice divergence between Canada and the United States.[5]

This study concentrates on a Central American country, Guatemala, for which considerably less information exists than in the areas or countries in the studies cited. Although the Guatemalan economy is not well integrated into international financial markets, many opportunities for attractive investments with relatively high expected returns exist. These opportunities exist partly because of market imperfections, such as lack of information and the potential investor's inability to interpret existing information. Together with the prospect for relatively high rates of return, however, a foreign

[1] For details of the history of financial ratio analysis, see J. O. Horrigan, "An Evaluation of Financial Ratio Analysis" (Ph.D. dissertation, University of Chicago, 1976).

[2] Frederick D. S. Choi, et al., "Multinational Finance: The Use and Misuse of International Ratio Analysis," *Journal of International Business Studies* (Spring-Summer 1983), 113–31.

[3] Werner G. Frank, "An Empirical Analysis of International Accounting Principles," *Journal of Accounting Research* (Autumn 1979), 75–87.

[4] S. J. Gray, "The Impact of International Accounting Differences from a Security-Analysis Perspective: Some European Evidence," *Journal of Accounting Research* (Spring 1980), 64–76.

[5] D. H. Drury, "Effects of Accounting Practice Divergence: Canada and the United States," *Journal of International Business Studies* (Fall 1979), 75–87.

investor in Guatemala might, of course, assume additional risk. The local business conditions are different from those in the United States, and the financial environment might be less familiar and more difficult to interpret. Nevertheless, a considerable part of this added risk might be eliminated by studying the Guatemalan business environment and financial accounting practices. Moreover, because Guatemalan companies are presently not widely involved in the international financial markets, Guatemalan investments could serve as an ideal source for international diversification.

BACKGROUND FACTORS SHAPING GUATEMALAN ACCOUNTING PRACTICES

Several factors affect accounting practices in Guatemala. These can be grouped into two major categories: (1) external factors, such as the effect of practices in neighboring countries, the presence of multinational corporations in Guatemala, and the influence of the U.S. accounting system; and (2) internal factors, such as the Guatemalan legal and taxation systems and the economic, political, and cultural setting. The important tax law and its impact on accounting practices will be discussed in a separate section.

The following discussion concentrates on Guatemala's neighboring countries. The effects of the other external elements, such as the influence of the U.S. accounting system, are incorporated into the discussion of accounting education in Guatemala at the end of this section.

The Neighboring Central American Countries

Guatemalan accounting practices have been influenced considerably by other Latin American countries, such as Mexico. Many Guatemalan accounting practices resemble those of its neighboring Central American countries: El Salvador, Honduras, Nicaragua, and Costa Rica. These five countries have similar backgrounds and common problems as discussed here.

The region was under Spanish rule for almost three hundred years. Many institutions and practices that had been established by the Spanish still have a significant impact on the population. The Catholic church is extremely influential. Although the Indian population uses different dialects in its various communities, the dominant language in business is Spanish, the official language of Central America.

Widespread poverty is common in the region. The illiteracy rate is high, primarily among the Indian population.

Except for Costa Rica, most of the region has suffered from a relatively undeveloped and unstable political atmosphere.

The economies of all the five Central American countries have continued to deteriorate during the 1980s. Except for Costa Rica, unemployment is a serious problem in the region. Another related problem is the heavy concentration in agriculture: approximately one-half of the working population (excluding Costa Rica) is employed in agriculture. Inflation continues to be an obstacle to the economic development of the area. The inflationary trend during the past five years has resulted in the devaluation of the local currencies compared to the U.S. dollar. All Central American countries are still suffering from continued balance of payments problems, and their external debt burden has increased consistently.

The Guatemalan Economic, Political, and Cultural Setting

The Guatemalan economy is based on agriculture, which accounts for 25 percent of the gross domestic product (GDP). It provides employment to more than 50 percent of the population and generates approximately 65 percent of the country's exports.

Prior to 1980, Guatemala enjoyed decades of continuous real economic growth. This era of prosperity came to an end in the period 1980 to 1981 as a result of several factors, such as the recession in the industrialized countries, decreasing world prices for its major exports, and regional and internal political turmoil largely due to the threat from the Sandinista Nicaraguan government. Guatemala has an abundance of natural resources, and its climate is ideal for many agricultural crops. The scenic countryside and the many archaeological sites provide a promising potential for a prosperous tourism industry.

Traditionally, the Guatemalan economy has been dominated by the private sector. The low level of taxes, both direct and indirect, reflects the relatively low government revenues. Recently, however, tax collections have increased as a result of government actions aimed to reduce fiscal evasion by both individuals and corporations. Although the government encourages private investment, it still maintains a controlling interest in a small number of utilities and other companies such as the railroad and the postal service.

Inflation. Historically, Guatemala has maintained a low inflation rate. As a result of the world's energy crisis, however, this rate increased considerably in 1981 and then declined again, as Exhibit 1 indicates.

The local currency. The quetzal was a very stable currency for many years. From 1924 to 1979, its exchange rate was pegged to the U.S. dollar. In 1979, however, this currency began to depreciate with respect to the dollar. Although a fixed exchange rate existed

Exhibit 1. Guatemalan Economic Indicators

	1980	1981	1982	1983	1984	1985
Consumer Price Index						
1978 = 100*	123.4	137.6	137.8	145.6	149.2	175.8
% change (inflation rate)	—	11.5	0.1	5.7	2.5	17.8
Food price index	118.4	136.4	132.7	138.6	139.6	165.6
Housing price index	134.8	151.8	153.3	153.1	159.6	178.4
Clothing price index	120.2	134.6	135.1	151.2	157.1	197.8
Unemployment (%)†	2.2	3.1	5.2	8.0	9.5	17.0
Gross domestic product‡						
Annual growth rate (%)/ capita	—	−1.8	−6.1	−5.5	−2.4	−4.2

* **Source:** *Consejo Monetario de Centro Ameriía*, various issues.
† **Source:** *Integración Latinoamericana*, vol. 2, no. 112.
‡ **Source:** *Comercio Exterior*, vol. 36, no. 2.

until 1985, by the end of 1986, the quetzal had three rates: (1) the official rate, $1 equaled Q1 (only for debt service); (2) the regulated rate, $1 equaled Q2.5 (for imports of raw materials, medicines, etc.); and (3) the free market rate, $1 equaled approximately Q2.70 (with which almost all the currency transactions took place). This unofficial market was very important from 1983 to 1985, but currently its size is considerably less significant.

Unemployment. Unemployment was relatively low in Guatemala from 1980 to 1982 (Exhibit 1); however, it has continued to rise and now poses a serious problem, particularly in the rural areas.

Lack of an active bond market. Guatemala has no active bond market in the country. The providers of capital resources, banks and *financieras*, do not base their loan decisions on publicly disclosed financial data. They have access to the firms' privately held information. No organized mechanism exists for the general public to provide equity capital for the companies; therefore, a firm's published balance sheet is not intended to serve as a basis for investment decisions.

Competition and the market structure. A wide variety of business enterprises exists in Guatemala. Firms can be grouped into two main categories: (1) companies with relatively sophisticated management and easy excess to capital, including the large subsidiaries of multinationals, and (2) a large group of small firms. Accounting serves the first group as an important tool for planning and investment decisions. The accounting practices used by this group are heavily influenced by the U.S. accounting system. Accounting does not play an important roll for the small firms; however, its importance is measured mainly by its impact on the tax calculations. The market structure, its relatively small size, and the intense competition also have an impact on the nature of accounting disclosure. Almost all the firms consider it prudent to avoid the disclosure of their cost structure, their sales volume, and other important figures because they do not wish to attract additional competition.

Tax considerations. Corporate financial planning in Guatemala is heavily influenced by tax considerations. Many companies attempt to take advantage of "loopholes" in the tax codes. This factor will be more fully described in the next section.

Political life in Guatemala. The military controlled the country from 1970 to 1982. During that period, three presidents were elected; all were generals from the army and from the same political group. Another general became president in 1982, but due to allegations of fraud, he was forced to step down by a coup, which established a three-man government led by Efrain Ríos-Montt. Later, Ríos-Montt declared himself president and commander-in-chief of the armed forces. In early 1983, Guatemalan political ties to the United States were strengthened when the United States approved a $2 million sale of military spare parts, thereby ending its five-year embargo on such sales.

In a subsequent coup on August 8, 1983, Ríos-Montt was replaced by Humberto Mejía-Victores, who returned Guatemala to civilian rule. A constituent assembly was elected in July 1984, and, for the first time in many years, an independent presidential election was held in November 1985. The new president, Vinicio Cerezo, belongs to the Christian Democratic Party. He has made efforts to improve the image of Guatemala in the international arena. Since his election, tourism has grown significantly, and Guatemala has been able to receive increased financial assistance from many countries.

Sociological factors. In general, successful Guatemalan citizens prefer a low profile. Perhaps this reflects the prevailing poor living conditions of most people in the country.[6] Although company

[6] According to Project on Basic Needs for the Central American Region (CEPAL) (March 1981), in 1980, approximately 39.6 percent of the Guatemalan population lived in a condition of extreme poverty; that is, the household income was not enough to cover their basic needs. Another 31.5 percent did not have enough to cover the cost of basic services such as health, education, housing, and so on. These numbers, however, are misleading, because they are based on officially *reported* income figures and include the Indian communities. A large number of transactions occurred outside the market and were never registered. Although there is poverty in the country, the problem is not so serious as the official numbers might suggest.

ownership is theoretically anonymous, in many cases people have a good idea as to the ownership of successful companies.[7] Especially between 1970 and 1978, such knowledge carried personal hazards: Cuban-sponsored guerrillas had a widespread kidnapping program in Central America. People desired their companies to give the impression of having a weak financial condition not only to pay less tax and to conform to societal norms, but also to protect themselves physically from kidnappers.

Educational levels. The illiteracy rate in Guatemala is high, particularly for the Indian groups. Although most of the Indians have a working knowledge of Spanish, many others speak their own language and dialect (approximately twenty different ones in Guatemala). This language barrier is one of the obstacles in the efforts to eliminate illiteracy.

In contrast, the National University of San Carlos (one of the oldest in America) has more than 50,000 students. Additionally, four private universities are located in the country's capital, Guatemala City. A growing number of people hold bachelor's, master's, and doctoral degrees from both foreign and domestic schools.

Accounting and Auditing Education in Guatemala

The accounting and auditing programs in all of the domestic universities are influenced by the U.S. system. The majority of the Big Eight firms have offices in Guatemala, and their representatives sometimes hold certified public accounting (CPA) certificates from both the United States and Guatemala. Most of the accounting and auditing textbooks used in Guatemalan schools are translations of U.S. books. The publications of the Financial Accounting Standards Board (FASB), especially on generally accepted accounting principles, are becoming more and more familiar to Guatemalan students majoring in accounting. After finishing a five-year program, these students are required to take a comprehensive examination; only those who pass it are allowed to write a dissertation. There is, however, an inconsistency in this process because financial statements can be certified either by these registered CPAs, or by people who obtain a diploma in accounting at the high school level.

There are basically two levels of accounting education in Guatemala: (1) on the high school level: those who complete this avenue of eduction are awarded an "accountant" degree; they do not

[7] Certain published information, such as the president's name and the signatures on the financial statements, serves to identify potential owners.

have "public faith," however, which means that their testimony does not have legal status in court; and (2) on the college level: this avenue typically requires four or five years of study beyond high school, followed by comprehensive examinations. Upon completion of a thesis, the candidate receives a CPA degree. Holders of this degree are awarded "public faith." Beyond this level, very little advanced education is available in Guatemala. Some review courses are offered for the practicing CPA; most of these focus on special topics such as accounting for specific industries or governmental accounting.

The auditor degree is obtained with that of public accountant. It is not currently possible to become an auditor without simultaneously becoming a public accountant. The equivalent term for a CPA in Guatemala is "Contador Público y Auditor," which means public accountant and auditor. As with the other areas of accounting, the auditing profession in Guatemala is heavily influenced by U.S. auditing practices. U.S. generally accepted auditing standards are followed here.

No governmental body sets accounting standards. There is, however, an association of accounting graduates, the Colegio de Economistas, CPAs y Administradores de Empresas (College of Economists, CPAs and Business Administration Graduates). By law, every accounting graduate must enroll in this association, which provides graduates a license to work legally as public accountants with the right to sign and certify financial statements. This association issues periodical technical bulletins, which inform the CPAs of new developments, such as changes in the tax law and guidelines. According to many Guatemalan CPAs, those bulletins heavily influence their accounting prctices. The nature of the technical bulletins is very similar to that of FASB standards, and some of them even include translations of such standards. While this association does not have the legal power to enforce its guidelines, it is nevertheless very influential.

TAX LAW IMPACT ON GUATEMALAN ACCOUNTING PRACTICES

Every company that is incorporated in Guatemala is required to publish its balance sheet once a year in the official newspaper, *El Diario de Centro América*. This requirement can be easily fulfilled since, generally, no specific standards regarding this presentation and its degree of disclosure exist. Many firms send the statements to the newspaper in a very condensed form. Because Guatemala has no active stock market, there is no incentive to disclose more than the required information. The sources of capital are banks and financing companies (*financieras*) that have direct access to the information they need.

The data published in the official newspaper are of very limited value for several reasons. First, they are not current and are unorganized; the newspaper is always behind schedule and, therefore, it is not unusual to find a balance sheet for 1981 followed by one for another company for 1985. Second, the published figures do not describe a complete picture of the firm's economic reality. These figures are sometimes based on arbitrary and inconsistent measurements. For example, nothing indicates whether the income numbers include intercompany transactions. Third, it is very hard to find a continuous time series of statements for a given company because the newspaper does not print them by industry classification or by date of preparation; normally they are printed according to the date they were submitted. Fourth, because companies know that the penalty for late submission is negligible, they are, sometimes, motivated not to disclose the information for a few years and then send it all at once. Thus, a researcher could spend days looking for information that had never been printed in the newspaper.

The major factor affecting the accounting practices in Guatemala has been the tax law. The following discussion relates to the tax law that prevailed in Guatemala until quite recently because these regulations have significantly affected the accounting practices described in this study. The tax law was undergoing major changes in the last quarter of 1987. This is an extended process, and the exact nature of the new law will probably not be determined without further changes in the near future. Some of the expected features of the new law are discussed later in this section.

The national political environment has encouraged some firms to take advantage of loopholes in the legislation. For a long period in the past, especially from 1970 to 1979, people considered tax revenue as wasted by a corrupt government and, therefore, regarded it as morally justifiable to pay as little tax as possible.[8] Although the situation has now changed significantly and it should not be suggested that all firms have engaged in the practices described here, some tax practices instituted in the past still continue. These include the following practices.

[8] This situation has changed since the election of President Vinicio Cerezo in 1985.

Accounting Practices Motivated by Tax Considerations

Transfer pricing. Because tax law does not allow consolidation, all legal entities are treated separately. Thus, firms are sometimes motivated to divide themselves into several legal entities according to their functional components — marketing, production, leasing (property, plant and equipment), account collections — with each incorporated individually. These subunits of one economic entity can potentially report different transfer prices in such a way to minimize tax payments. Usually, such a functional division serves several economic entities of the same owner. For example, the marketing division serves as the marketing arm of all the enterprises of a consortium held by a particular group. Corporate shares are bearer stocks, and a corporation is a *Sociedad Anónima* (anonymous society), in accordance with the civil law. Therefore, the firm's owners are not registered, and it is difficult to associate the different subsidiaries which together form one economic entity. This enables relatively easy manipulations by means of using different transfer prices, which are difficult to detect.

Related to transfer pricing are such issues as intercompany loans and capital transfers. For example, a foreign entity can be incorporated in a tax haven to produce tax savings, reduce reported profits, and assist the Guatemalan entity in establishing the image of a low-key business. This image might be desired by a typical Guatemalan owner who does not want to attract too much attention from potential kidnappers, competitors, or the general public.

Nonregistered transactions. A significant number of transactions are not recorded in the books, despite governmental efforts to the contrary. Doing business by means of invoices costs an additional 7 percent in value-added tax (VAT). At the retail shops, consumers are given the option to be invoiced for their purchases. Buyers normally prefer not to be invoiced and to share the 7 percent savings with the sellers. This phenomenon recurs throughout the chain. Because the retailer knows that some customers do not demand invoices, the retailer, in turn, requests from the wholesaler that a similar proportion of the transactions be made without invoices. The wholesaler deals similarly with the manufacturer, and so on. Because manufacturers pay VAT, mainly on the acquisition of raw materials, they must invoice only enough to offset their VAT fiscal credit (a rather small percentage of the total sales). This way of doing business is advantageous to most of the participants in the distribution chain. Reporting lower sales produces more "tax-free" profits. Not all businesses can follow such practices.

Large, visible organizations, for instance, would have difficulties manipulating inventory control and sales amounts and are normally subject to frequent tax audits.

The net result is that corporate assets and activity figures are reported as smaller than they really are. Consequently, the GDP, gross national product, and other national income account figures are significantly understated.

Over- and understatement of accounts receivable. Because of the previously mentioned practices, certain companies might report economically meaningless figures. For example, the authors found four companies in the same group that report exactly the same amount of accounts receivable (Q483,000) on their balance sheet. The four statements are signed by the same CPA and by the same corporate executive officer. They even have the same format: small amount of cash, identical organizational costs, and Q500,000 of stockholders' equity. Clearly, these figures, which indicate some kind of affiliation among these firms, should not be accepted at face value.

Inventories. Over- and understatement of inventories result from not keeping accurate records (perhaps because of noninvoice purchases). Companies are not motivated to use accurate estimates of their inventories because of the low probability of being tax audited.

Retained earnings. One cannot expect to learn much by comparing a Guatemalan firm's retained earnings figures for two consecutive years. Normally, companies report only two accounts in the stockholders' equity section: equity capital (par value) and surplus. The latter account includes amounts paid in excess of par value, provisions, and retained earnings. Before the next year's balance sheet is reported, the board of directors can easily declare a stock dividend (or a stock repurchase), and this change, plus new reserves and the remaining retained earnings, would appear together as surplus, thus concealing the real profit of the year.

Financial leverage. Large companies have relatively easy access to investment funds since normally their owners also have a stake in either banks or *financieras.* The smaller companies, however, have difficulty gaining access to such resources and usually finance their expansion only with the use of retained earnings. Nevertheless, the balance sheets of many firms show short- and long-term debt. A significant portion of such debt is either directly or indirectly supplied by the owner (or a bank or *financiera).* This is done in most cases to generate interest deductions for tax purposes whenever the marginal tax rates of the owner and the company are different.

Payroll-related practices. Especially in the rural areas, it is difficult to verify a company's payroll. This enables many employers to inflate their company's reported payroll to benefit from tax deductions.[9] This practice is especially popular among manufacturing firms, which sometimes inflate their payroll reports by claiming employment of their employees' spouses.

Legal transactions. In addition to the 7 percent VAT on sales invoices, a tax is levied on all documented legal transactions whether of local origin or from abroad. The normal stamp tax rate is 3 percent, calculated on the face value stated in the documents or on the gross value of the transaction. This tax, therefore, provides an additional incentive to understate transaction values.

Recent Developments in the Tax Law

The Guatemalan tax law is currently undergoing a major reform. Since the fourth quarter of 1987, laws pertaining to the income tax, value added tax, stamp tax, land and property taxes, license plate tax, and import taxes have been changing. The main consequence of these changes is the elimination of many loopholes that existed in the previous tax laws, which had motivated the accounting manipulations discussed earlier. These new laws, therefore, represent a major step for improving both the accounting practices and the economic development within the country.

THE IMPACT OF GUATEMALAN ACCOUNTING PRACTICES, ECONOMIC CONDITIONS, AND ENVIRONMENTAL FACTORS ON FINANCIAL RATIO NORMS

The financial ratio norms of Guatemalan and U.S. companies in the yarn-spinning industry were compared and the major differences analyzed and noted. The objective was to reconcile and explain the reasons for the differences between the norms of the two countries by considering accounting, economic, taxation, and other environmental factors. This type of reconciliation should contribute to a better understanding of the mechanism through which accounting practices are developed internationally, and without which comparison of financial ratio norms across countries would be meaningless.

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[9] Many people might be motivated to be *reported* as employees, even without being paid any significant cash amount by the employer. The benefit in this case might be in the form of employee's rights to health insurance and social security.

Data and Research Methodology

The authors concentrated on evidence from the yarn-spinning industry. The Standard Industrial Classification (SIC) code #2281 defines this industry as "establishments primarily engaged in spinning yarn wholly or chiefly by weight of cotton, man-made fibers, or silk." This industry is a good representative of the Guatemalan economy and its typical procedures for producing financial reports: inventory valuation methods; property, plant and equipment valuation basis; and depreciation methods.

One of the main difficulties in assessing and analyzing the Guatemalan financial ratio norms is the lack of sufficient information disclosure. Not only are these financial ratios different from those in the United States, but also it is sometimes difficult to determine what the Guatemalan ratios are at all. For example, such critical items as the sales figures are not publicly available.

In this study, the authors obtained data for six privately held firms that were carefully selected to be representative of the industry and the economy. The firms were of a comparable size (not exceeding $10 million in total assets). These data were available under the strict condition that they not be published in a way that might reveal the identity of the participating firms. In addition, detailed interviews were held with local accountants, auditors, businesspeople, and mill managers. Finally, we used the publicly available literature, including the official newspaper.

The data for the U.S. companies is based on a sample of fifteen firms taken from Troy, and Dun & Bradstreet.[10] Exhibits 2 and 3 present the respective financial statement figures and financial ratios of the sample companies in the two countries. The data for the Guatemalan companies are adjusted to reflect the economic reality of the firms and are based on replacement cost rather than on historical cost figures.

Analysis of Major Differences

This section discusses the differences observed between the Guatemalan and the U.S. financial ratios and offers some possible explanations.

Asset composition. The inventories of the Guatemalan companies are kept at lower levels compared to their U.S. counterparts. Most of these inventories consist of raw materials and work in process, with very low levels of finished goods. There are two reasons for

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[10] Leo Troy, *Almanac of Business and Industrial Financial Ratios,* Englewood Cliffs, N.J.: Prentice-Hall, 1986; and *Industry Norms and Key Business Ratios,* 1986–1987 (New York: Dun and Bradstreet, 1987).

Exhibit 2. Common Balance Sheet and Income Statement of Guatemalan and U.S. Firms in the Yarn-Spinning Industry (1985)

	Guatemala	United States
Assets	%	%
Cash & equivalents	8.8	12.2
Trade receivables (net)	12.3	21.1
Inventory	16.8	28.3
All other current assets	0.3	0.4
Total current assets	38.2	61.9
Fixed assets	60.3	32.2
Intangibles (net)	0.9	0.0
All other noncurrent	0.6	5.8
Total	100.0	100.0
Liabilities		
Notes payable — short term	2.2	12.3
Current maturity — long-term debt	1.1	2.4
Trade payables	3.9	12.8
Income taxes payable	0.2	1.5
All other current assets	0.1	4.3
Total current assets	7.5	33.3
Long-term debt	3.4	11.2
Deferred taxes	0.0	0.8
Net worth	89.1	54.7
Total liabilities & net worth	100.0	100.0
Selected income items		
Net sales	100.0	100.0
Gross profit	57.8	12.4
Operating expenses	18.1	9.1
Operating profit	39.7	3.3
All other expenses (net)	1.3	0.6
Profit before taxes	38.4	2.7

this finding. First, the lack of a developed financial market makes it difficult for most of the firms to secure external financing to expand their operations and production. Second, the Guatemalan market structure favors a limited supply of goods to drive profitability to higher levels.

While the share of fixed assets (FA) of total assets is considerably higher for the Guatemalan companies, this does not mean that more property, plant and equipment (PPE) are held by these firms. The data in Exhibit 1 indicating that the Guatemalan firms are more capital intensive than their U.S. counterparts are distorted. Machinery is more expensive in Guatemala than in the United

Exhibit 3. Financial Ratios of Guatemalan and U.S. Firms in the Yarn-Spinning Industry (1985)

	Guatemala	United States
Liquidity ratios		
Current	5.1	2.0
Quick	2.8	1.2
Sales/Receivables	14.5	9.6
Days' receivables	25.1	38.0
Cost of sales/Inventories	4.5	7.6
Cost of sales/Payables	19.4	22.8
Days' payables	18.8	48.0
Sales/Working capital	5.8	9.6
Coverage ratios		
EBIT*/Interest	102.3	1.8
Cash flow/Current maturity — long-term debt	66.8	2.8
Fixed/Net worth	0.7	0.6
Debt/Net worth	0.1	0.9
Operating ratios		
% profit before taxes/Net worth	76.9	9.0
% profit before taxes/Total assets	68.6	3.4
Sales/Net fixed assets	3.0	5.9
Sales/Total assets	1.8	2.1

* EBIT = Earnings before interest and taxes

States Because the Guatemalan figures are based on current replacement costs, they inflate the weight of PPE. Consequently, FA constitutes 60.3 percent of total assets in Guatemala, compared with 32.3 percent in the United States. Had historical cost figures been used for Guatemala, FA would have been only in the range of 10 to 15 percent.

The accounts receivable (AR) amounts are relatively lower in the Guatemalan cases, primarily because the native Indians, who are major customers of the Guatemalan mills, normally trade in cash.

Leverage ratios. Guatemalan companies are significantly less leveraged than those in the United States. This fact is clear, especially after the intercompany and temporary owners' loans are eliminated. A significant number of firms finance their expansion mainly through retained earnings, relying very little on external debt sources. Some owners consider it morally superior to finance their companies by equity and are proud to manage their companies debt free. The interviewed owners of the Guatemalan yarn mills expressed their preference to grow slowly rather than to have their businesses taken by the banks.

Profitability ratios. One of the most important differences between the two countries is their profitability ratios. In the United States, the fifteen mills averaged 12.4 percent of gross profit, whereas in Guatemala, the average gross profit was 57.8 percent. The market structure in the yarn-spinning industry in Guatemala is typical of the structure of many other industries. Because it is not fully competitive, a relatively small number of firms have significant influence on the yarn supply in Guatemala. Raw materials can be bought at low prices from local Guatemalan production, and the finished goods can be sold at relatively high prices. At the same time, the U.S. yarn mills suffer from both internal and external competition (the latter from foreign manufacturers in Taiwan and Korea), which lowers their profit margins considerably. The profitability is, therefore, higher in Guatemala despite some higher cost components.

Liquidity ratios. Guatemalan firms have a shorter accounts receivable collection period (ARCP) than do the U.S. firms. Moreover, Guatemalans pay their obligations to the suppliers faster. The "current" and "quick" ratios are higher for the Guatemalan firms. These phenomena are caused by the heavy reliance on cash transactions in Guatemala and the low level of short-term liabilities there.

The "inventory turnover ratio" might be misleading since it gives the impression that the inventory is turned over very slowly in Guatemala. This is not the case, as long as the data concern finished goods, which have a very high inventory turnover. Firms overstock raw materials (including chemicals), however, in anticipation of shortages of foreign currency or to avoid potential problems in obtaining raw materials.

The sales working capital ratio indicates that the U.S. manufacturers are more efficient in their use of working capital.

Coverage Ratios. The Guatemalan business community's general approach to debt financing is conservative. This factor, together with the lack of a developed financial market, produces a very low level of financial leverage. The interest coverage ratios of the Guatemalan companies are, therefore, very high and conservative as compared with those of the U.S. companies.

Operating ratios. Although the Guatemalan firms are more profitable, due to their market structure, the revenues of the U.S. companies are higher. The U.S. firms sell more, not only in absolute terms, but also relative to the fixed assets employed.

CONCLUSIONS

U.S. investors have several ideal opportunities to diversify their portfolios internationally by investing in Central America. One such case is an investment in the yarn-spinning industry in Guatemala. Such investment yields higher rates of return than similar investments in the United States. Because of Guatemala's isolation from the international financial markets and the different conditions in the Guatemalan and the U.S. markets, a considerable portion of the risk of investing in Guatemala can be diversified when most of an investor's portfolio is concentrated in the more developed countries.

The prospective investor in Guatemala should be aware of the different economic culture, business conditions, and accounting practices of this country. The corporate financial disclosure required by law in Guatemala is such that many incorporated financial items go unreported. Moreover, corporations are allowed to issue bearer stock, which helps to ensure the owners' anonymity. The Guatemalan tax laws treat each corporation separately, whether it is a subsidiary of a larger corporation or not. This situation stimulated distortions in the financial reports. Consequently, a reader of the corporate financial statements published by the official newspaper in Guatemala should be careful in interpreting them. Most of these statements are published only to fulfill a legal requirement, not to describe the real financial condition of the firms. The financial statement analyst should, therefore, be able to make the needed adjustments to these figures to permit a more realistic picture of the financial position. This study suggests that without thorough investigation and analysis and a subsequent series of adjustments based on that analysis, a comparison between Guatemalan and U.S. investments would be meaningless. First, the existing biases in Guatemalan financial reporting often give profitability ratios a downward bias. Second, additional sources should be consulted to supplement the incomplete information obtained through the official reports. Finally, the differences in the financial reporting practices between Guatemalan and U.S. firms, which evolved from the different accounting, economic, and environmental backgrounds of the two countries, must be considered.

In tracing the factors affecting the Guatemalan accounting practices, and in identifying their impact on the Guatemalan financial ratio norms, this article has sought to contribute a better understanding of the mechanism through which accounting practices are developed internationally. Without this knowledge of specific accounting practices, comparisons of financial ratio norms across countries are meaningless.

APPENDIX A: GUATEMALIAN ACCOUNTING: ADDITIONAL DETAILS

Contents of Financial Statements

Consolidated financial statements. Consolidated accounts are not included in the local statutory financial statements. Further, the parent's equity in subsidiaries carried at cost is not disclosed. For tax purposes, consolidation is not allowed.

Investments. Even if an investment in an affiliate is carried on a cost basis for a valid reason, the parent's equity is not disclosed.

Contingency reserves. General provisions (legal reserve, provision for severance payments to employees, etc.) are sometimes used to shift income between periods.

Appreciation of fixed assets. Revaluations of fixed assets are not recognized for tax purposes and may be recorded only when: (1) the revaluation is based on appraisals made by qualified independent technicians, (2) the basis of the revaluation is not disclosed, (3) subsequent depreciation is based on .the new values and expected asset life. The offsetting credit arising on such revaluations is taken to an equity reserve.

Income Determination

Liability for purchase contract losses. Provision is seldom made for anticipated losses on unfulfilled (open) purchase contracts.

Accounts payable. Estimates of liabilities that are not definitely determinable are often not recorded.

Profit realization. Gross profit on installment sales may be recognized either in the period of sale or in the periods in which the installments are collected.

Property, plant and equipment. (1) Fixed assets are not written down (other than by depreciation) if their value to the business is substantially lower than cost less accumulated depreciation; (2) depreciation charges are usually computed for book purposes at the maximum permissible tax rates.

Intangible assets. These are generally amortized against income at the maximum permissible tax rates. Goodwill amortization is tax deductible.

Inventory. (1) Cost of inventories does not always include an appropriate portion of fixed manufacturing overheads. Direct costing is permissible. (2) Inventories are carried at cost until disposed of; they are not always reduced to market.

Lease transactions. Lease or rental contracts are not accounted for by the lessee as an installment purchase (capitalized) even where the substance of the arrangement transfers the usual risks and rewards of ownership from the lessor to the lessee.

Provision for severance payments. A percentage of the company's payroll is tax deductible as a provision for employees' severance payments. According to the Guatemalan Labor Law, the severance payment is equal to one month's salary for each year of work at the company.

Maintenance and repairs. Provision is seldom made for estimated major repair costs that derive from past operations.
Retained earnings. Stock dividends are generally recorded at par or nominal value by the issuer.
Income taxes. If there is a difference between accounting numbers calculated for financial reporting or for tax purposes, the difference (1) is not recorded as a deferred charge or credit, and (2) is not disclosed in the footnotes.

Disclosure and Presentation

Changes in accounting methods. The monetary effect of a change in accounting practice is not disclosed.
Contingencies. Contingent liabilities are not disclosed.
Rental commitments. Material rental commitments on long-term leases are not disclosed.
Lease transactions. The method for accounting for them is not disclosed.
Capital commitments. They are not disclosed.
Pledged assets. Their nature and extent are not disclosed.
Subsequent events. These are not disclosed.
Income taxes. They are not shown separately but are generally included under the caption "Taxes," which includes taxes other than that on income.
Sales. These are never disclosed.
Cash. It is never segregated as to restricted (provisions) and unrestricted items.
Investments. Investments in affiliates are seldom segregated from other investments.
Property, plant and equipment. The accounting methods for computing depreciation and amortization are seldom disclosed in the financial statements. Most companies, however, use the maximum amount allowed by the tax authorities.
Inventory. The valuation method used for determining the cost of inventory is not disclosed.
Accounts receivable. Receivables from affiliated companies (directors or officers) are not shown separately.
Insurance coverage. Where material risks are not covered by insurance, this fact is not disclosed in the financial statement.
Long-term debt. Maturities, interest rates, and terms of debts outstanding are seldom disclosed.
Contingency reserves. Changes in reserves are seldom disclosed.
Capital stock. The status of stock options outstanding and changes occurring during the period are not disclosed.
Retained earnings. Restrictions on retained earnings are not disclosed.

APPENDIX B: TAXATION IN GUATEMALA

Knowledge of the national tax system is essential to understanding the rationale behind certain financial reporting practices in Guatemala. Under the Guatemalan constitution, tax legislation is a prerogative of the Congress. In certain cases, however, the government may issue decrees on tax and other matters. Other sources of tax law include the constitution itself, provisions of international tax treaties, and regulations and other provisions issued by the authorized administrative bodies.

In complex situations, it is difficult to determine how the tax law will be applied. The law and regulations are limited in scope and normally do not cover irregular cases. The practice of applying legal precedents and prior court decisions is not widely used. Each issue is discussed and resolved by reference to the applicable codes (the civil law system).

Income Tax

Guatemala's income tax rates are the same for all taxpayers. The same tax table applies to all individuals, corporations, joint ventures, partnerships, branches, agencies, subsidiaries, and other taxable entities. Both de jure and de facto entities are taxed on total net income, which is income before any distribution to members.

Income Determination

Inventory valuation method. When a company desires to change its inventory valuation method, it must obtain permission from the Internal Revenue Bureau. Inventories are generally stated at average cost, not at the lower of cost or market.

Capital gains. Gains and losses on capital assets are treated as ordinary income or losses.

Intercompany dividends. Dividends from domestic subsidiaries and other domestic corporations are subject to a 10 percent withholding tax.

Income from foreign sources. Income received by a domestic corporation from foreign sources is generally exempt from Guatemalan income tax.

Stock dividends. Stock dividends are permitted by the Commercial Code and are not taxable to the recipient unless remitted abroad, in which case a 12.5 percent tax must be withheld.

Deductions

Depreciation and depletion. Depreciation is generally computed on a straight-line basis. Authorization may be obtained to exceed this rate under special circumstances. Tax depreciation must conform to book depreciation. No special treatment is given to gain or loss on sale of depreciable property.

Net operating losses. Such losses might be carried forward for deduction purposes against taxable income to the following year or to the maximum period of five years, at the rate of 20 percent annually. Losses may not be carried back.

Payments to foreign affiliates. Deduction for royalties are allowed to 15 percent of gross income, but this requires the prior approval of the Ministry of Economy. Charges for technical service fees are deductible up to 1 percent of gross income. No special restrictions on the payment of interest to foreign affiliates exist.

Group taxation. Tax calculations on a consolidated entity are not permitted. Tax calculations are made separately for each subsidiary.

Other Taxes

Stamp tax. Except for sales invoices and other minor exceptions, a stamp tax must be paid on all documents covering legal transactions originating locally or received from abroad. Letters of credit and letters of acceptances involving international transfers of funds are generally exempt from the stamp tax. The normal stamp tax rate of 3 percent is calculated on the face value of the documents or the gross value of the transaction.

Value-added tax. A 7 percent value-added tax is levied on the sale or transfer of merchandise and on nonpersonal services rendered in Guatemala.

Real estate taxes. These are assessed annually at .3 percent on declared property values of up to Q20,000; .6 percent on values up to Q50,000; and at .8 percent on values in excess of Q50,000.

Annual business tax. On local companies, this tax ranges from Q25 to Q500, and on foreign companies (branches) from Q500 to Q1,000, depending on the levels of total assets, profits, and sales.

Tax Incentives

Law of incentives for export-producing industries. Industries that are totally or partly engaged in the production of goods destined for countries other than the Central American Common Market receive an incentive of 100 percent exemption from income taxes for a period of ten years. Moreover, a temporary suspension of duties on all imported raw and other production materials is granted for one year and is extendable to two.

Law for the promotion of industrial decentralization. Industries establishing themselves outside the range of the Department of Guatemala receive an exemption on income taxes ranging from 70 percent to 90 percent for a period of eight to ten years, depending on their geographical location.

Law on free industry and trade zone. Companies located and operating within the area of the free trade zone are granted a 100 percent exemption from income taxes for a period of twelve years. These industries obtain a 100 percent exemption from duties on all imported raw materials, machinery, equipment, accessories, spare parts, and other items as needed, over an indefinite period of time, as well as 100 percent exemption from all current and future fiscal and municipal taxes, duties, tariffs, and contributions.

Tax credit certificates. (1) Companies exporting nontraditional products to countries other than the Central American Common Market obtain a reduction in income taxes through the Tax Credit Certificates that are issued to them.

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Exhibit 4. Guatemalan Tax Revenues
1984–1985
(000's Quetzals)

	1984	1985	% Change
Direct taxes			
Income tax	78,528.7	107,959.9	37.5
Others	6,936.8	18,120.7	162.7
	85,465.5	126,080.6	47.5
Indirect taxes			
Import tax	78,601.1	78,497.5	−0.1
Export tax	28,382.1	9,913.2	−65.1
Stamp tax	32,418.5	55.451.2	71.0
Alcohol tax	40,831.6	43,367.5	6.9
Tobacco tax	22,951.3	32,539.3	41.8
Value-added tax	142,545.0	214,303.1	50.3
International transactions	0.0	50,476.4	
Others	66,734.5	68,311.6	2.4
	412,464.1	552,859.8	34.0
Total	497,929.6	678,940.4	36.4

Source: *Junta Monetaria de Guatemala* (June 1986).

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[1] William A. Dymsza, Multinational Business Strategy (New York: McGraw-Hill, 1972), 49-53.
[2] Geoffrey Holmes, "Replacement Value Accounting," Accountancy (March 1972), 4-8.

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